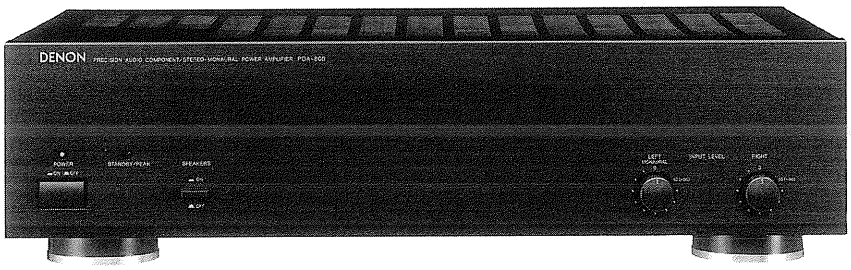
DENON

Hi-Fi Monaural Power Amplifier

SERVICE MANUAL

MODEL POA-800

STEREO POWER AMPLIFIER



This Service Manual is prepared based on U.S.A. Black Version

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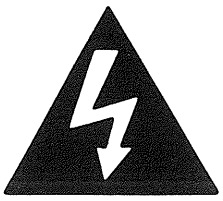
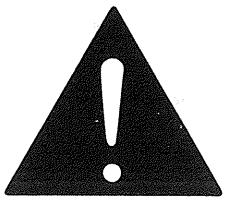
NIPPON COLUMBIA CO., LTD.



CAUTION

RISK OF ELECTRIC SHOCK

DO NOT OPEN



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltge" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

CAUTION	ATTENTION
TO PREVENT ELECTRIC SHOCK DO NOT USE THIS (POLARIZED) PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.	POUR PREVENIR LES CHOCS ELECTRIQUES NE PAS UTILISER CETTE FICHE POLARISEE AVEC UN PROLONGATEUR UNE PRISE DE COURANT OU UNE AUTRE SORTIE DE COURANT, SAUF SI LES LAMES PEUVENT ETRE INSEREES A FOND SANS EN LAISSER AUCUNE PARTIE A DECOUVERT.

Please read the instructions before using. Following the instructions and operating hints will ensure top performance for many years.
Keep the Operating Instructions in a secure place.

Veuilez lire ces instructions et ces conseils de fonctionnement avant la mise en service de l'appareit et vous serez ainsi assuré d'une performance optimale pendant de longues années.
Conserver ce Mode d'emploi dans un endroit sûr.

"SERIAL NO. _____
PLEASE RECORD UNIT SERIAL NUMBER ATTACHED TO THE REAR OF THE CABINET FOR FUTURE REFERENCE"

SAFETY INSTRUCTIONS

1. Read Instructions – All the safety and operating instructions should be read before the appliance is operated.

2. Retain Instructions – The safety and operating instructions should be retained for future reference.

3. Heed Warnings – All warnings on the appliance and in the operating instructions should be adhered to.

4. Follow Instructions – All operating and use instructions should be followed.

5. Water and Moisture – The appliance should not be used near water – for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, and the like.

6. Carts and Stands – The appliance should be used only with a cart or stand that is recommended by the manufacturer.

6A. An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

7. Wall or Ceiling Mounting – The appliance should be mounted to a wall or ceiling only as recommended by the manufacturer.

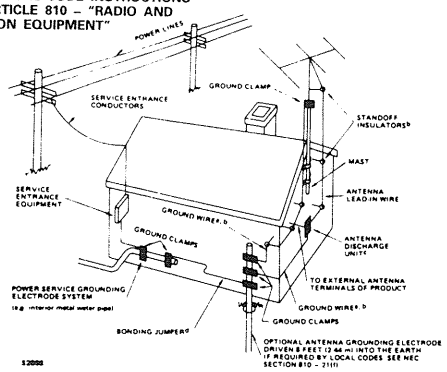
8. Ventilation – The appliance should be situated so that its location or position does not interfere with its proper ventilation. For example, the appliance should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings; or, placed in a built-in installation, such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.

9. Heat – The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.

10. Power Sources – The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.

11. Grounding or Polarization – The precautions that should be taken so that the grounding or polarization means of an appliance is not defeated.

FIGURE A
EXAMPLE OF ANTENNA GROUNDING ACCORDING TO NATIONAL ELECTRICAL CODE INSTRUCTIONS CONTAINED IN ARTICLE 810 – "RADIO AND TELEVISION EQUIPMENT"


POWER LINES
GROUND CLAMP
SERVICE ENTRANCE CONDUCTORS
STANDOFF INSULATORS[b]
MAST
SERVICE ENTRANCE EQUIPMENT
ANTENNA LEAD-IN WIRE
GROUND WIRE[c, b]
GROUND CLAMPS
ANTENNA DISCHARGE UNIT[c]
TO EXTERNAL ANTENNA TERMINALS OF PRODUCT
POWER SERVICE GROUNDING ELECTRODE SYSTEM
(e.g. interior metal water pipe)
GROUND WIRE[c, b]
GROUND CLAMPS
BONDING JUMPER[d]
OPTIONAL ANTENNA GROUNDING ELECTRODE DRIVEN 8 FEET (2.44 m) INTO THE EARTH IF REQUIRED BY LOCAL CODES SEE NEC SECTION 810 – 21(f)

12. Power-Cord Protection – Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.

13. Protective Attachment Plug – The appliance is equipped with an attachment plug having overload protection. This is a safety feature. See Instruction Manual for replacement or resetting of protective device. If replacement of the plug is required, be sure the service technician has used a replacement plug specified by the manufacturer that has the same overload protection as the original plug.

14. Cleaning – The appliance should be cleaned only as recommended by the manufacturer.

15. Power Lines – An outdoor antenna should be located away from power lines.

16. Outdoor Antenna Grounding – If an outside antenna is connected to the receiver, be sure the antenna system is grounded so as to provide some protection against voltage surges and built up static charges. Section 810 of the National Electrical Code, ANSI/NFPA No. 70–1984, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See Figure A.

17. Nonuse Periods – The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.

18. Object and Liquid Entry – Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.

19. Damage Requiring Service – The appliance should be serviced by qualified service personnel when:

    A. The power-supply cord or the plug has been damaged; or

    B. Objects have fallen, or liquid has been spilled into the appliance; or

    C. The appliance has been exposed to rain; or

    D. The appliance does not appear to operate normally or exhibits a marked change in performance; or

    E. The appliance has been dropped, or the enclosure damaged.

20. Servicing – The user should not attempt to service the appliance beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.

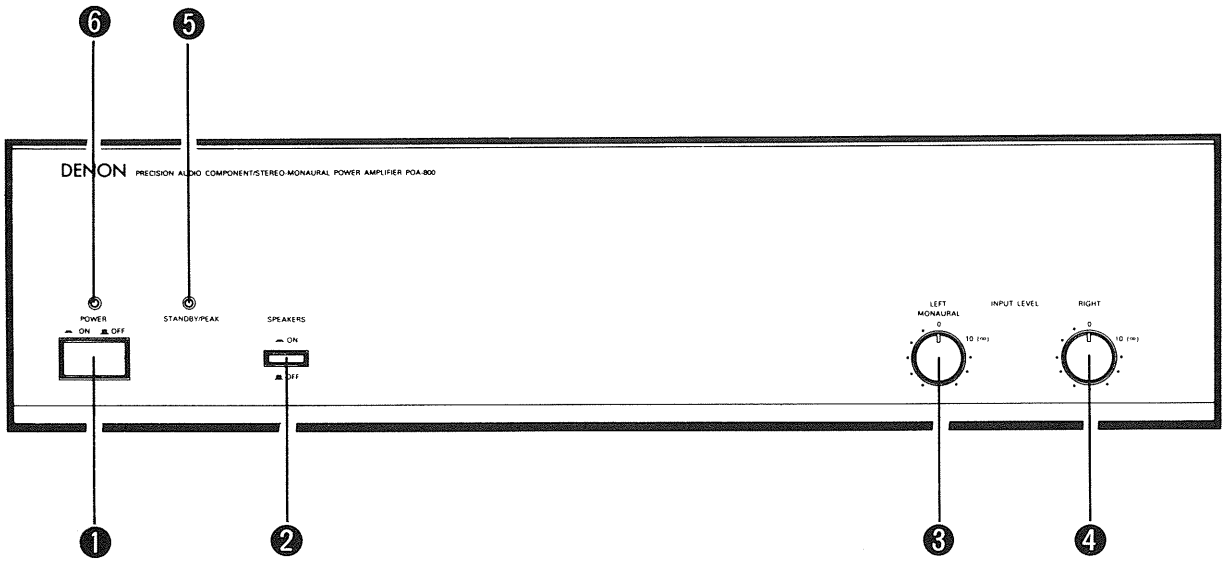
[a] Use No. 10 AWG (5.3 mm^2) copper, No. 8 AWG (8.4 mm^2) aluminum, No. 17 AWG (1.0 mm^2) copper-clad steel or bronze wire, or larger, as a ground wire.

[b] Secure antenna lead-in and ground wires to house with stand-off insulators spaced from 4–6 feet (1.22–1.83 m) apart.

[c] Mount antenna discharge unit as close as possible to where lead-in enters house.

[d] Use jumper wire not smaller than No. 6 AWG (13.3 mm^2) copper, or the equivalent, when a separate antenna-grounding electrode is used. See NEC Section 810-21 (j).

NAMES AND FUNCTIONS OF PARTS



❶ POWER (Power Switch)

When this switch is pressed, the power is turned on, the POWER indicator ❻ lights.
When this switch is pressed again, the power is turned off.

❷ SPEAKERS

When this switch is pressed, the speaker system connected to the SPEAKERS terminal is operated.

❸ INPUT LEVEL (Left Channel Input Level Control)

Use this control to adjust the input level of the left channel.

> When in the monaural mode, control the input level using the input level control for the left channel.

❹ INPUT LEVEL (Right Channel Input Level Control)

Use this control to adjust the input level of the right channel.

❺ STANDBY / PEAK

- **STANDBY**

The set will not operate when this indicator is "on".

(1) When one end of a remote plug cord is inserted in the DC input on the back panel and the other end is open (not connected)

(2) When one end of a remote plug cord is cnnected to the power amp and the other end is connected to the preamp (such as PRA-1500), and the preamp's power switch is "off".

Note: If the preamp power switch is turned "on" under the above conditions, after the STAND BY indicator ❺ has gone off, the POWER indicator will light. After muting for several seconds, the set will operate normally.

- **PEAK**

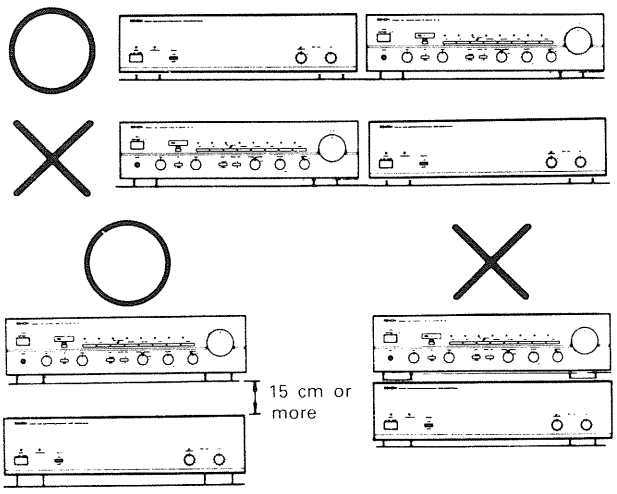
In order to enjoy high quality amplification of the program source with minimum distortion, operate the unit so as to keep the volume within a range where the PEAK indicator does not light up.

❻ POWER (Power indicator)

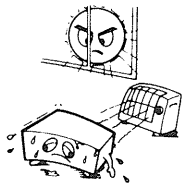
NOTES ON INSTALLING THE PRE-AMPLIFIER

To prevent harmful influence caused by heat build-up and electric radiation from the power amplifier or externally induced humming, preferably install the pre-amplifier next to the power amplifier. If such an installation is not possible, be sure there is a free space of 15 cm or more between the pre-amplifier and power amplifier or other system component.

* Set the pre-amplifier on the right side of the power amplifier.



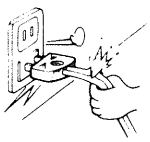
NOTE ON USE



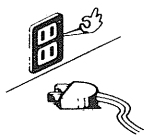
Be careful of high temperatures.
- Do not place the amplifier where it will be exposed to direct sunlight or close to heating devices.

Installation in a cabinet
- Avoid installing the amplifier in a sealed, airtight cabinet.
- If a cabinet is to be used, make certain that the amp is placed in a well-ventilated section.
  If necessary, cut out sufficient space in the cabinet walls to allow heat to escape.

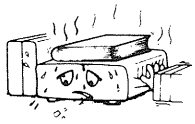
Humidity, water and dust must be prohibited.
- Do not place the amplifier in dustry areas or those subject to high humidity.
  Do not place vases or other containers filled with water on top of the equipment.



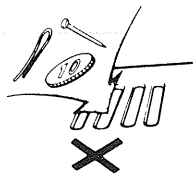
Be careful with the power supply cord.
- Do not pull out the plug by yanking on the power supply cord. Always take the plug in hand pull it out.



During your absence.
- If no one will be in the room for a long period and the amplifier is not being used, make certain to pull out the plug from the wall socket.



Do not place objects on top of the ventilation holes.
- Placing objects on top of the ventilation holes will result in malfunction.
- The ventilation holes are extremely important in allowing heat to escape from the amplifier. If they are covered up, the internal temperature of the amplifier will rise abnormally. Be careful to avoid this.



Do not allow foreign matter to get inside the equipment.
- Do not allow needles, hairpins, coins, etc. to slip inside the amplifier.

Handling the cabinet.
- The quality and color of the cabinet will be affected if it is exposed to insect repellent or solvents such as benzene or paint thinners. Do not use these on the cabinet.
  To remove dirt, use a soft cloth. Be sure to read and follow the instructions before using chemically treated cloth.

Do not open the cabinet.
- It is extremely dangerous to open the cabinet or its bottom lid and reach inside. Do not open the amplifier.
  If a problem occurs with the equipment, unplug the power supply cord at once, and contact the store where you purchased the amplifier.

SPECIFICATIONS

Amplifier

Rated output power

Stereo	50 W per channel, min. RMS, at 8 ohms from 20 Hz to 20 kHz with no more than 0.05% total harmonic distortion 90 W + 90 W (4 ohms, 1 kHz THD 1%).
Monaural	120 W channel, min. RMS, at 8 ohms from 20 Hz to 20 kHz with no more than 0.08% total harmonic distortion 150 W (4 ohms, 1 kHz THD 1%).
Dynamic power	
Stereo	130 W + 130 W (4 ohms) 150 W + 150 W (2 ohms)
Monaural	180 W (4 ohms) 190 W (2 ohms)
Total harmonic distortion:	Less than 0.008% (Stereo), 0.007% (Monaural) (–3 dB at rated output, 8 ohms)
Intermodulation distortion:	Less than 0.03% (Stereo/Monaural) (60 Hz/7 kHz: 4/1 at rated output 8 ohms)
Power band width:	10 Hz – 50 kHz (8 ohms, THD 0.1%)
Frequency response:	1 Hz – 100 kHz + 0, –3 dB (at 1 W)
Input sensitivity:	1 V (Stereo), 0.85 V (Monaural)
Input impedance:	25 kohms (Stereo/Monaural)
Output impedance:	0.1 ohm (1 kHz)
Signal to noise ratio (A-weighting)	120 dB (Stereo), 114 dB (Monaural)
Output terminals	
Speakers	4 ohms MIN.
General	
Power supply:	AC 120 V, 60 Hz (U.S.A. and Canada) AC 110/120/220/240 V/50, 60 Hz [Asia (Multiple)] AC 220V, 50Hz (Europe) AC 240V, 50Hz (U.K. and Australia)
Power consumption:	3 A (U.S.A. and Canada), 160 W [Asia (Multiple)] 150W (Europe, U.K. and Australia)
Dimensions:	434 (W) × 120 (H) × 300 (D) mm (Including control knobs and feet)
Weight:	6.8 kg

- Specifications and contents are subject to change without notice for purposes of improvement.

CONNECTIONS

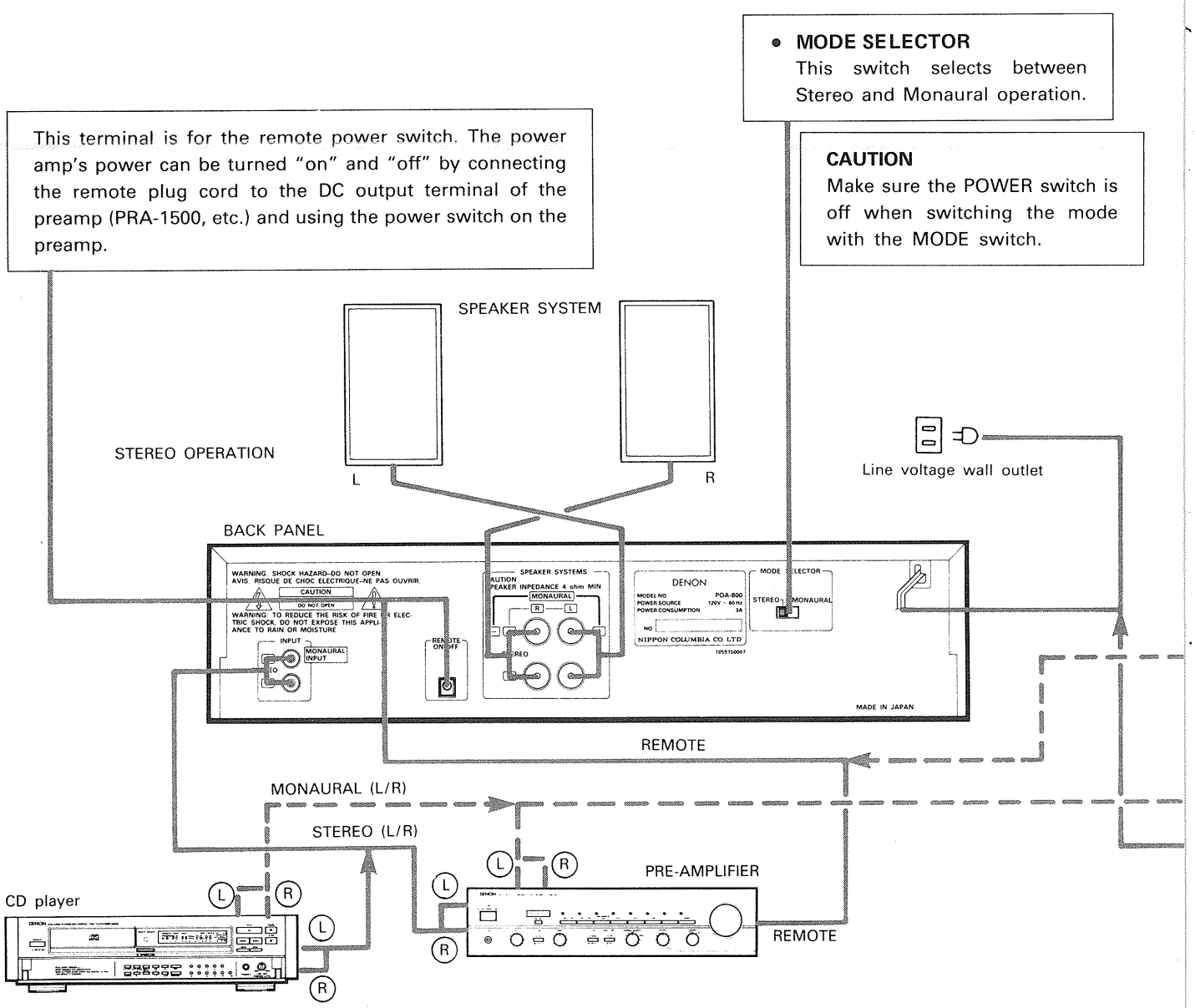
- **Notes on Connection**
  - Do not plug the power supply cord into the wall socket, until all connections are completed.
  - Plug the pins in securely. An incomplete connection will cause noise generation.
  - Binding the pin plug to the power supply cord, or setting the pin cord close to the power supply transformer will cause humming or noise, and should be avoided.

- **Connecting the Speakers**
  - When connecting the speaker terminals to the speaker systems, make certain to connect the polarities correctly (+ to + and – to –). If the polarities are incorrect when the two are connected, the center area of the sound will be lacking, the positions of the musical instruments will not be clear, and the stereo directional sensitivity will be impaired.
  - During connection, be careful that the center wires in the speaker cords do not protrude from the teminals to contact any other terminal, and that the central wires in the separate speaker cords do not contact each other.
- **Speaker impedance**
  - Speakers with an impedance of 4 to 16 ohm can be connected to this set.
  - Speakers with a lower impedance may cause the protective circuitry to operate.

- **MODE SELECTOR**
  This switch selects between Stereo and Monaural operation.

CAUTION
Make sure the POWER switch is off when switching the mode with the MODE switch.

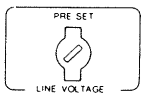
This terminal is for the remote power switch. The power amp's power can be turned "on" and "off" by connecting the remote plug cord to the DC output terminal of the preamp (PRA-1500, etc.) and using the power switch on the preamp.



CAUTION

Protective Circuit
This set is equipped with a high speed protective circuit. This circuit protects the internal circuitry from damage due to large currents flowing when the speaker jacks are not completely connected or when an output is generated by a short circuit. This protective circuit's operation cuts off the output to the speakers. In such a case, be sure to turn the power to the set off and check the connections to the speakers. Then turn the power on again. After muting for several seconds, the set will operate normally.

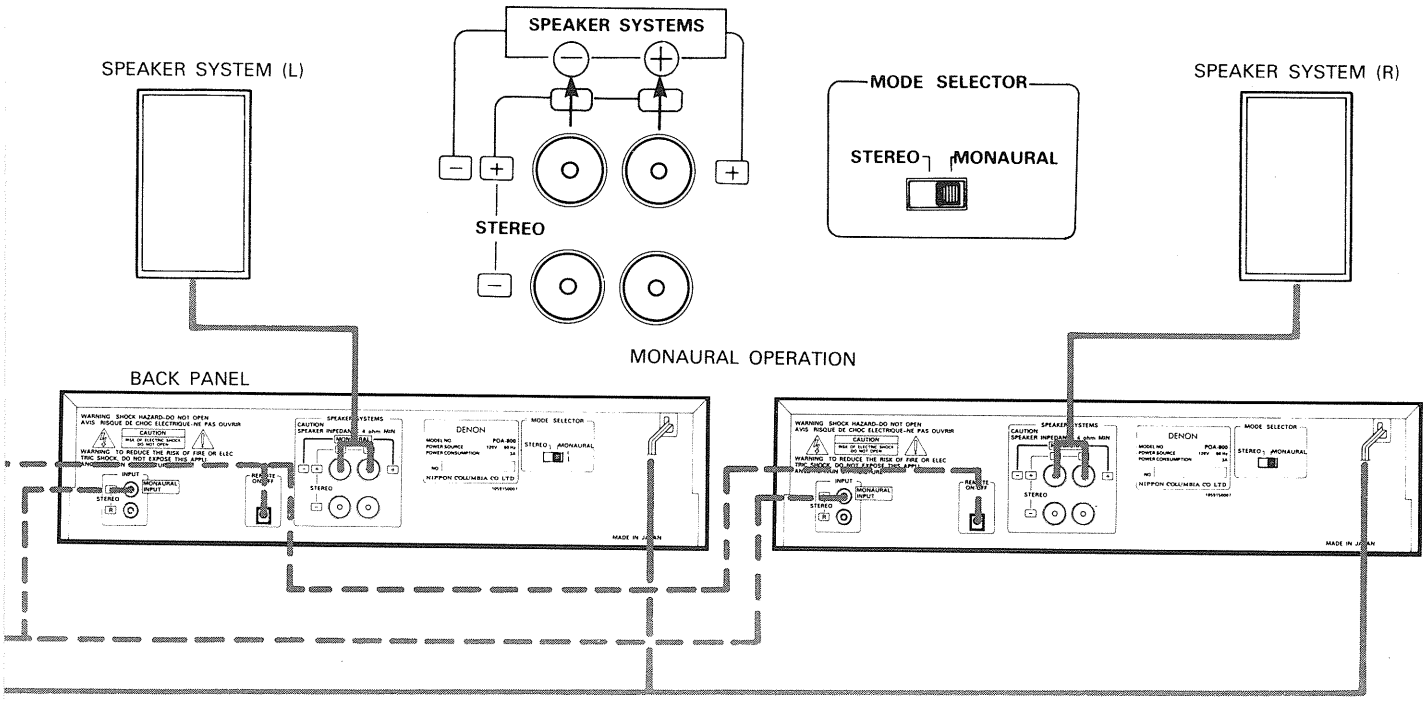
- **Line Voltage Selection (for multiple voltage model only)**
  * The desired voltage may be set with the VOLTAGE SELECTOR knob on the rear panel, using a screwdriver.
  * Do not twist the VOLTAGE SELECTOR knob with excessive force as this may cause damage.
  * If the VOLTAGE SELECTOR knob does not turn smoothly, please contact a qualified serviceman.



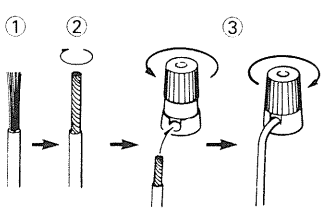
[CAUTION FOR MONAURAL OPERATION]

During monaural operation, the + and – speaker terminals are floating from the ground circuit. NEVER connect the ground of input terminal together with the + and – speaker terminals, as this could damage the set.

* Connect the speaker cords as shown and set the MODE SELECTOR to the MONAURAL position.



1. Peel off the sheathing from the end of the cord.
2. Twist the wire strands.
3. Loosen the speaker terminal, insert the wire lead portion of the code, and then tighten the terminal.



FOR UNITED KINGDOM MODEL ONLY

WARNING:
As the colours of the wires in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug proceed as follows:

The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.

The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

IMPORTANT

The wires in this mains lead are coloured in accordance with the following code:

Blue: Neutral
Brown: Live

Die Deutsche Bundespost informiert

Sehr geehrter Rundfunkteilnehmer,

Dieses Gerät ist von der Deutschen Bundespost als Ton- bzw. Fernseh-Rund-funkempfänger bzw. als Komponente einer solchen Anlage (Tuner, Verstärker, aktive Lautsprecherbox, Frenseh-Monitor u. dgl.) zugelassen. Is entspricht den zur Zeit geltenden Technischen Vorschriften und ist zum Nachweis dafür mit dem Zulassungszeichen der Deutschen Bundespost gekennzeichnet. Bitte überzeugen Sie sich selbst.
Dieses Gerät darf im Rahmen der "Allgemeingenehmigung für das Irrichten und Betreiben von Ton- und Fernseh-Rundfunkempfängern" in der Bundesrepublik Deutschland betrieben werden. Beachten Sie aber bitte, daß autgrund dieser Genehmigung hur für die Allgemeinheit bestimmte Sendungen und solche, für die ebenfalls eine Allgemeine Empfangsgenehmigung erteilt worden ist*), empfangen und wiedergegeben werden dürfen. Wer unbefugt andere Sendungen (z. B. des Polizeifunks, des Mobilfunks) empfängt und wiedergibt, verstößt gegen die Genehmigungsauflagen und macht sich daher nach § 15, Absatz 2a des Gesetzes uber Fernmeldeanlagen strafbar.
Die Kennzeichnung mit dem Zulassungszeichen bietet Ihnen die Gewähr, daß dieses Gerät keine anderen ordnungsgemäß errichteten und betriebenen elektrischen Anlagen stort. Der Zusatzbuchstabe S**) beim Zulassungszeichen besagt außerdem, daß das Gerät gegen storendue Beeinflussungen durch andere ordnungsgemäß errichtete und betriebene elektrische Anlagen weitgehend unemofinolich ist. Geräte ohne den Zusatz S sind nicht besonders sicher gegen Beeinflussungen.
Sollten bei Geräten mit dem Zusatz S ausnahmsweise trotzdem Beeinflussungen auftreten, oder wenn Sie Fragen haben, so wenden Sie sich bitte an die örtlich zuständige Funkstörungsmeßstelle.

*) Zur Zeit für den Empfang der Aussendungen von Amateurfunkstellen und der Normal frequenz- und Zeitzeichensendungen.
**) Weitere Zusätze haben in Bezug auf die Störfestigkeit keine Bedeutung. Sie geben bei Empfängern vielmehr Aufschluß über Empfangsmoglichkeiten.

Allgemeine Genehmigung für Ton- und Fernseh-Rundfunkempfänger

Die Allgemeine Ton- und Fernseh-Rundfunkgenehmigung vom 11.12.1970 (veroffentlicht im Bundesanzeiger Nr. 234 vom 16.12.1970) wird unter Bezug auf Abschnitt III der Genehmigung durch folgende Fassung der Allgemeinen Genehmigung fur Ton- und Fernseh-Rundfunkempfanger gemaß den §§ 1 und 2 des Gesetzes uber Fernmeldeanlagen ersetzt

Genehmigung für Ton- und Fernseh-Rundfunkempfänger

I

1 Die Errichtung und der Betrieb von Ton- und Fernseh-Rundfunkempfangern werden nach §§ 1 und 2 des Gesetzes uber Fernmeldeanlagen in der Fassung der Bekanntmachung vom 17.3.1977 (BGBl. I, S. 459) allgemein genehmigt.

2 Ton- und Fernseh-Rundfunkempfanger im Sinne dieser Genehmigung sind Funkanlagen gemaß § 1 Abs. 1 des Gesetzes uber Fernmeldeanlagen, die ausschließlich die fur Rundfunkempfanger zugelassenen Frequenzabstimmbereiche *) aufweisen und zum Aufnehmen und gleichzeitigen Hor- oder Sichtbarmachen von Ton- oder Fernseh-Rundfunksendungen bestimmt sind. Zum Empfanger gehoren auch eingebaute oder mit ihm fest verbundene Antennen sowie bei Unterteilung in mehrere Gerate die funktionsmäßig zugehorenden Gerate.
Außer fur den Empfang von Rundfunksendungen durfen Ton- und Fernseh-Rundfunkempfanger nur mit besonderer Genehmigung der Deutschen Bundespost fur andere Fernmeldezwecke zusatzlich benutzt werden.
In den Empfanger eingebaute oder sonst mit ihm verbundene Zusatzgerate (z.B. Ultraschallfernmeldeanlagen, infrarotfernmeldeanlagen) werden von dieser Genehmigung nicht erfaßt (ausgenommen die Einrichtungen zum Empfang des Verkehrsrundfunks). Desgleichen sind andere technische Empfangereigenschaften, die uber den eigentlichen Zweck eines Rundfunkempfangers hinausgehen (z.B. zum Empfang anderer Funkdienste, fur die Wiedergabe im Rahmen von Textubertragungsverfahren) hierdurch nicht genehmigt. Hierfur gelten besondere Regelungen.

II

Diese Genehmigung wird unter nachstehenden Auflagen erteilt:

1 Ton- und Fernseh-Rundfunkempfanger mussen den jeweils geltenden Technischen Vorschriften fur Ton- und Fernseh-Rundfunkempfanger entsprechen. Eingebaute Zusatzgerate mussen den fur sie geltenden Bestimmungen und technischen Vorschriften genugen.
Anderungen der Technischen Vorschriften, die im Amtsblatt des Bundesministers fur das Post- und Fernmeldewesen veröffentlicht werden, muß bei schon errichteten und in Betrieb genommenen Ton- und Fernseh-Rundfunkempfangern nachgekommen werden, wenn durch den Betrieb dieser Rundfunkempfanger andere elektrische Anlagen gestort werden.
Serienmaßig hergestellte Ton- und Fernseh-Rundfunkempfanger mussen zum Nachweis dafur, daß sie den Technischen Vorschriften entsprechen, mit einer DBP-Prufnummer gekennzeichnet sein. **) Die DBP-Prufnummer sagt über die elektrische und mechanische Sicherheit und die Einhaltung der Strahlenschutzbestimmungen nichts aus.

2 Ton- und Fernseh-Rundfunkempfanger durfen an ortsfesten oder nichtortsfesten Rundfunk-Empfangsantennenanlagen, -Verteilanlagen oder Kabelfernsehanlagen betrieben und im Rahmen der Bestimmungen uber private Drahtfernmeldeanlagen mit Drahtfernmeldeanlagen verbunden werden.
Auf demselben Grundstuck oder innerhalb eines Fahrzeuges durfen Ton- und Fernseh-Rundfunkempfanger mit anderen Geraten oder sonstigen Gegenstanden (z.B. Plattenspieler, Magnetaufzeichnungs- und -Wiedergabegerate, Antennen) verbunden werden, sofern diese Gerate von der Deutschen Bundespost genehmigt sind oder keiner Genehmigung bedurfen.
Die raumliche Kombination von Funkanlagen mit Ton- oder Fernseh-Rundfunkempfangern ist nur dann zulassig, wenn die betreffenden Funkanlagen je fur sich genehmigt sind.

3 Mit Ton- oder Fernseh-Rundfunkempfangern durfen aufgrund dieser Genehmigung nur Sendungen des Rundfunks empfangen werden, also ubertragene Tonsignale (Musik, Sprache) und Fernsehsignale (nur Bildinformationen). Andere Sendungen (z.B. des Polizeifunks, der offentlichen beweglichen Landfunkdienste, Datenubertragungen) durfen nicht aufgenommen werden; werden sie jedoch unbeabsichtigt empfangen, so durfen sie weder aufgezeichnet, noch anderen mitgeteilt, noch fur irgendwelche Zwecke ausgewertet werden. Das Vorhandensein solcher Sendungen darf auch nicht anderen zur Kenntnis gebracht werden.

4 Durch Ton- oder Fernseh-Rundfunkempfanger darf der Betrieb anderer elektrischer Anlagen nicht gestort werden.

5 Anderungen der Ton- oder Fernseh-Rundfunkempfanger, die die zulassigen Frequenzabstimmbereiche der Empfanger erweitern, gehen uber den Umfang dieser Genehmigung hinaus und bedurfen vor ihrer Ausfuhrung einer besonderen Genehmigung der Deutschen Bundespost.
Wer aufgrund dieser Genehmigung einen Ton- oder Fernseh-Rundfunkempfanger betreibt, hat bei einer Anderung der kennzeichnenden Merkmale von Ton- oder Fernseh-Rundfunksendern (insbesondere bei Anderung des Sendeverfahrens oder bei Frequenzwechsel) die ggf. notwendig werdenden Anderungen an den Rundfunkempfangern auf seine Kosten vornehmen zu lassen.

6 Die Deutsche Bundespost ist berechtigt, Rundfunkempfanger und mit ihnen verbundene Gerate darauf zu prufen, ob die Auflagen der Genehmigung und die Technischen Vorschriften eingehalten werden.
Den Beauftragten der Deutschen Bundespost ist das Betreten der Grundstucke oder Raume, in denen sich Ton- oder Fernseh-Rundfunkempfanger befinden, zu den verkehrsublichen Zeiten zu gestatten. Befinden sich die Rundfunkempfanger oder mit ihnen verbundene Gerate nicht im Verfugungsbereich desjenigen, der die Empfanger betreibt, so hat er den Beauftragten der Deutschen Bundespost Zutritt zu diesen Teilen zu ermoglichen.

III

Bei Funkstörungen die nicht durch Mangel der Rundfunkempfanger oder der mit ihnen verbundenen Gerate verursacht werden, können die Funkmeßdienste der Deutschen Bundespost zur Feststellung der Störung in Anspruch genommen werden.

IV

1 Diese Genehmigung kann allgemein oder durch die ortlich zustandige Oberpostdirektion einem einzelnen Betreiber gegenuber fur einen bestimmten Rundfunkempfanger widerrufen werden. Ein Widerruf ist insbesondere zulassig, wenn die unter Abschnitt II aufgefuhrten Auflagen nicht erfullt werden.
Anstatt die Genehmigung zu widerrufen, kann die Deutsche Bundespost anordnen, daß bei einem Verstoß gegen eine Auflage ein Ton- oder Fernseh-Rundfunkempfanger außer Betrieb zu setzen ist und erst bei Einhaltung der Auflagen wieder betrieben werden darf.
Die Auflagen dieser Genehmigung konnen jederzeit erganzt oder geandert werden.

2 Diese Genehmigung ersetzt die Allgemeine Ton- und Fernseh-Rundfunkgenehmigung vom 11.12.1970; sie gilt ab 1.7.1979.

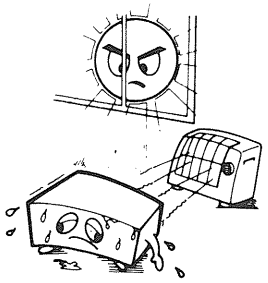
Bonn, den 14.5.1979

Der Bundesminister
fur das Post- und Fernmeldewesen
Im Auftrag
Haist

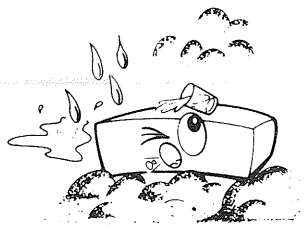
*) Siehe Technische Vorschriften fur Ton- und Fernseh-Rundfunkempfanger, veröffentlicht im Amtsblatt des Bundesministers fur das Post- und Fernmeldewesen.
**) Für ausnahmsweise noch nicht gekennzeichnete, vor dem 1.7.1979 errichtete und in Betrieb genommene Ton-Rundfunkempfanger wird die Kennzeichnung nicht verlangt.

"SERIAL NO. _____
PLEASE RECORD UNIT SERIAL NUMBER ATTACHED TO THE REAR OF THE CABINET FOR FUTURE REFERENCE"

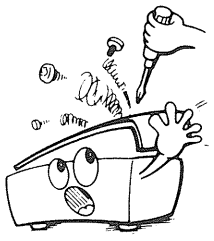
NOTE ON USE/HINWEISE ZUM GEBRAUCH/OBSERVATIONS RELATIVES A L'UTILISATION NOTE SULL'USO/NOTAS SOBRE EL USO/ALVORENS TE GEBRUIKEN/OBSERVERA



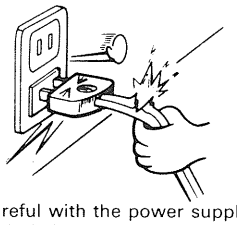
- Be careful of high temperatures.
- Vor hohen Temperaturen schützen.
- Prendre garde aux fortes températures.
- Evitate alte temperature.
- Tenga cuidado de las altas temperaturas.
- Vermijd hoge temperaturen.
- Undvik höga temperaturer.



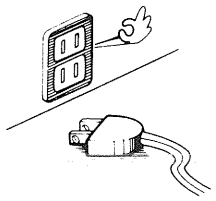
- Humidity, water and dust must be prohibited.
- Vor Feuchtigkeit, Nässe und Staub schützenl.
- L'humidité, l'eau et la poussière sont à éviter.
- Evitate ogni contatto con umidità, acqua o polvere.
- Humedad, agua y polvo deben serevitados.
- Vermijd vochtigheid, water en stof.
- Undvik fukt, vatten och damm.



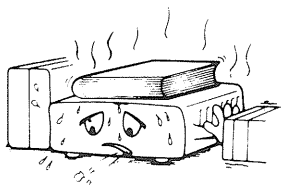
- Do not open the cabinet.
- Das Gehäuse nicht öffnen!
- Ne pas ouvrir le boîtier.
- Non aprite l'involucro.
- No abra el gabmete.
- De behuizing niet openen.
- Öppna inte apparatens hölje.



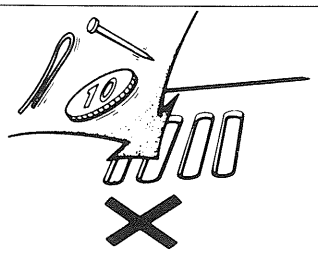
- Be careful with the power supply cord.
- Vorsicht bei der Handhabung des Netzkabels!
- Manipuler le cordon d'alimentation avec soin.
- Maneggiate con curail cavo d'alimentazione.
- Tenga cuidado con el cordón de alimentación.
- Wees voorzichtig met het spanningssnoer.
- Var aktsam om nätsladden.



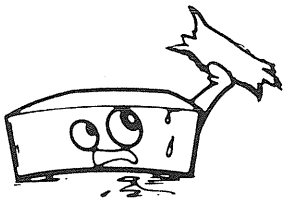
- Disconnect the power plug during your absence.
- Trennen Sie den Netzstecker während Ihrer Abwesenheit ab.
- Déconnectez la prise d'alimentation pendant votre absence.
- Disinnestate il filo di alimentazione durante la vostra assenza.
- Deconecte la clavija de alimentación durante su ausencia.
- De stekker uit het stopkontakt laten tijdens uw afwezigheid.
- Dra stickkontakten ur el-uttaget om du kommer att vara borta hemmaifrån under längre tid.



- Do not place objects on top of the ventilation holes.
- Keine Gegenstände auf bzw. vor die Entlüftungsöffnungen stellen!
- Ne pas placer d'objets sur les orifices de ventilation de l'appareil.
- Non sistemate oggetti sulle aperture di ventilazione.
- No coloque objetos sobre las ranuras de la ventilación.
- Geen voorwerpen boven op de ventilatieopeningen plaatsen.
- Täck inte över ventilationshålen.



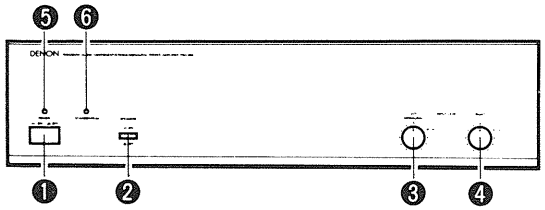
- Do not allow foreign matter to get inside the equipment.
- Keine Fremdkörper ins Geräteinnere gelangen lassen!
- Eviter l'entrée de matériaux étrangers dans l'appareil.
- Fate attenzione che oggetti estranei non penetrino all'interno dell'unità.
- No permita que materias extrañas se introduzcan dentro del equipo.
- Laat geen vreemd materiaal in de apparatuur binnendringen.
- Inga främmande föremål i apparaten.



- Be sure to read and follow the instructions before using chemically treated cloth.
- Lesen und folgen Sie in jedem Fall den Anweisungen, bevor Sie ein chemisch behandeltes Tuch anwenden.
- Assurez-vous de lire et suivre les instructions avant d'utiliser un chiffon traité chimiquement.
- Fate attenzione di leggere e seguire le istruzioni prima di usare un panno che è stato preparato con dei prodotti chimici.
- Asegúrese de leer y seguir las siguientes instrucciones antes de usar un paño con tratamiento químico.
- Instrukties lezen en opvolgen alvorens chemisch behandelde doeken te gebruiken.
- Läs och följ anvisningarna noggrant innan en kemiskt behandlad torkduk används.

NAME AND FUNCTION OF PARTS

FRONT PANEL



1 POWER (Power Switch)
When this switch is pressed, the power is turned on, the POWER indicator 6 lights.
When this switch is pressed again, the power is turned off.

2 SPEAKERS
When this switch is pressed, the speaker system connected to the SPEAKERS terminal is operated.

3 INPUT LEVEL (Left Channel Input Level Control)
Use this control to adjust the input level of the left channel.
When in the monaural mode, control the input level using the input level control for the left channel.

4 INPUT LEVEL (Right Channel Input Level Control)
Use this control to adjust the input level of the right channel.

5 STANDBY/PEAK

- **STANDBY**

The set will not operate when this indicator is "on".
(1) When one end of a remote plug cord is inserted in the DC input on the back panel and the other end is open (not connected)
(2) When one end of a remote plug cord is connected to the power amp and the other end is connected to the preamp (such as PRA-1500), and the preamp's power switch is "off".
Note: If the preamp power switch is turned "on" under the above conditions, after the STANDBY indicator 5 has gone off, the POWER indicator will light. After muting for several seconds, the set will operate normally.

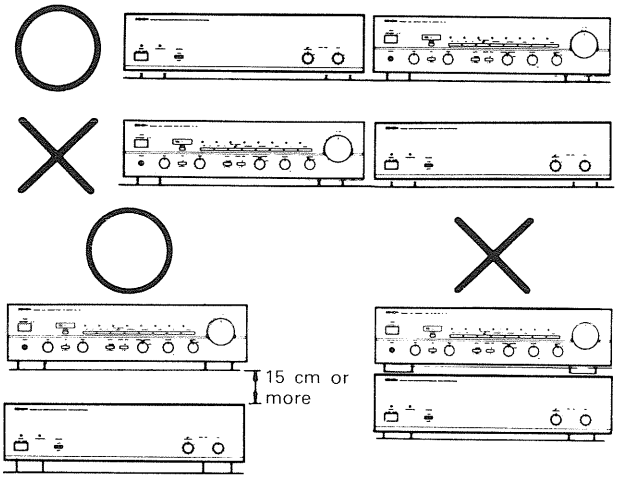
- **PEAK**

In order to enjoy high quality amplification of the program source with minimum distortion, operate the unit so as to keep the volume within a range where the PEAK indicator does not light up.

6 POWER (Power indicator)

NOTES ON INSTALLING THE PRE-AMPLIFIER
To prevent harmful influence caused by heat build-up and electric radiation from the power amplifier or externally induced humming, preferably install the pre-amplifier next to the power amplifier. If such an installation is not possible, be sure there is a free space of 15 cm or more between the pre-amplifier and power amplifier or other system component.

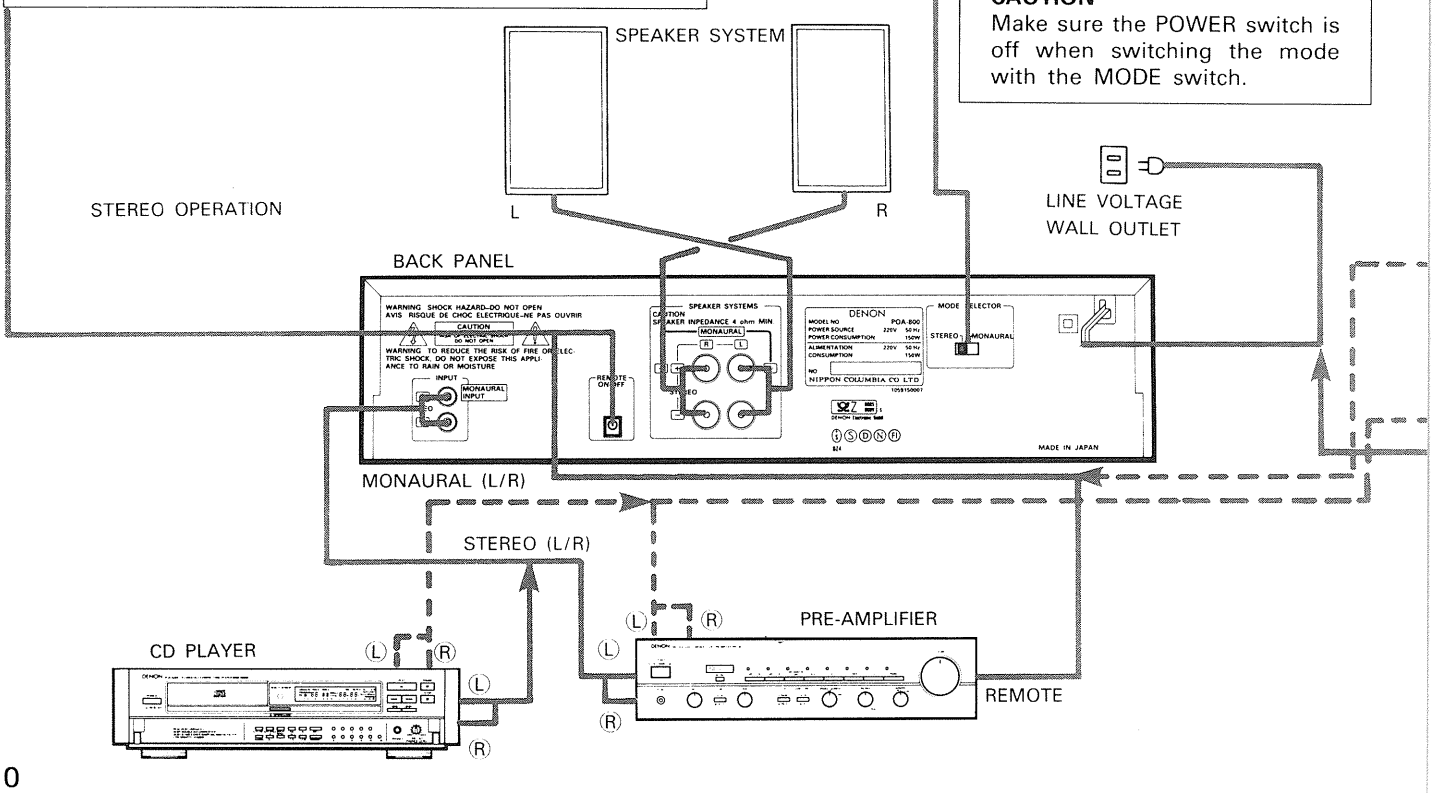
* Set the pre-amplifier on the right side of the power amplifier.



This terminal is for the remote power switch. The power amp's power can be turned "on" and "off" by connecting the remote plug cord to the DC output terminal of the preamp (PRA-1500, etc.) and using the power switch on the preamp.

• MODE SELECTOR
This switch selects between Stereo and Monaural operation.

CAUTION
Make sure the POWER switch is off when switching the mode with the MODE switch.



CONNECTIONS

- **Notes on Connection**
  - Do not plug the power supply cord into the wall socket, until all connections are completed.
  - Plug the pins in securely. An incomplete connection will cause noise generation.
  - Binding the pin plug to the power supply cord, or setting the pin cord close to the power supply transformer will cause humming or noise, and should be avoided.

- **Connecting the Speakers**
  - When connecting the speaker terminals to the speaker systems, make certain to connect the polarities correctly (+ to + and – to –). If the polarities are incorrect when the two are connected, the center area of the sound will be lacking, the positions of the musical instruments will not be clear, and the stereo directional sensitivity will be impaired.
  - During connection, be careful that the center wires in the speaker cords do not protrude from the terminals to contact any other terminal, and that the central wires in the separate speaker cords do not contact each other.
- **Speaker impedance**
  - Speakers with an impedance of 4 to 16 ohm can be connected to this set.
  - Speakers with a lower impedance may cause the protective circuitry to operate.

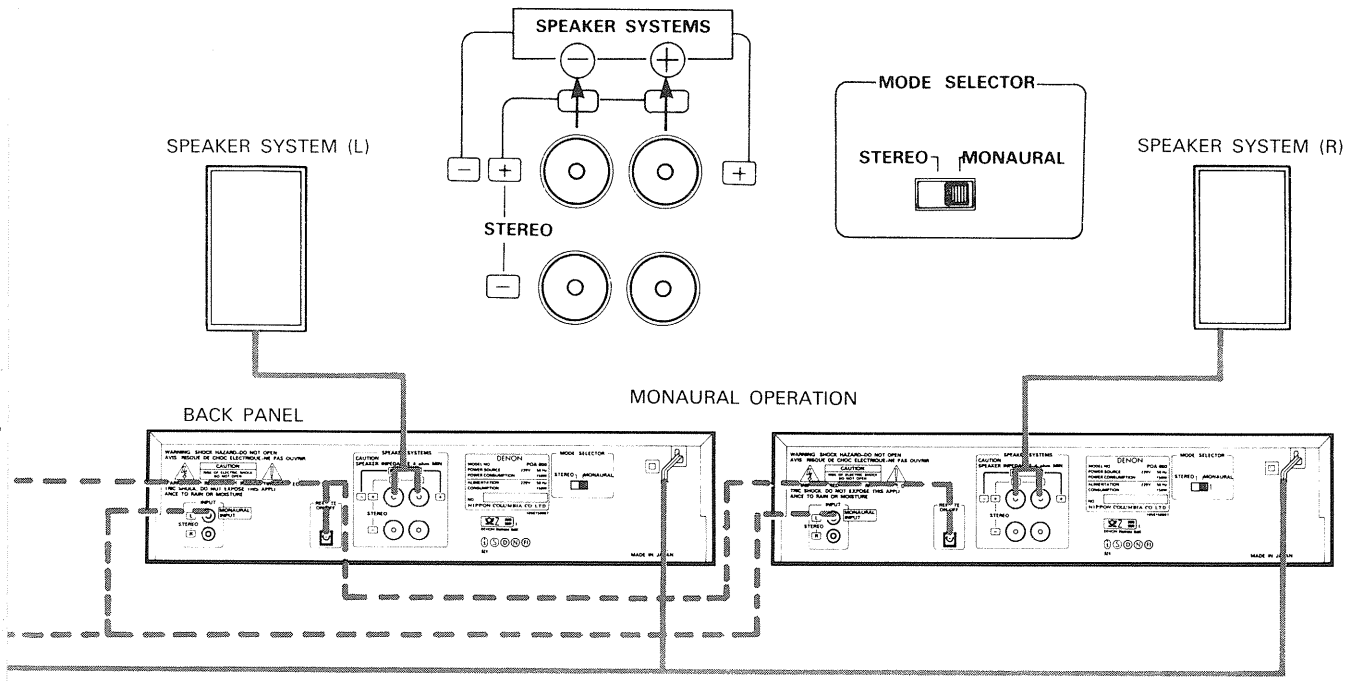
CAUTION

Protective Circuit
This set is equipped with a high speed protective circuit. This circuit protects the internal circuitry from damage due to large currents flowing when the speaker jacks are not completely connected or when an output is generated by a short circuit. This protective circuit's operation cuts off the output to the speakers. In such a case, be sure to turn the power to the set off and check the connections to the speakers. Then turn the power on again. After muting for several seconds, the set will operate normally.

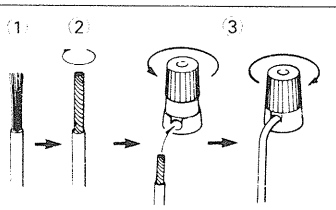
[CAUTION FOR MONAURAL OPERATION]

During monaural operation, the + and – speaker terminals are floating from the ground circuit. NEVER connect the ground of input terminal together with the + and – speaker terminals, as this could damage the set.

* Connect the speaker cords as shown and set the MODE SELECTOR to the MONAURAL position.



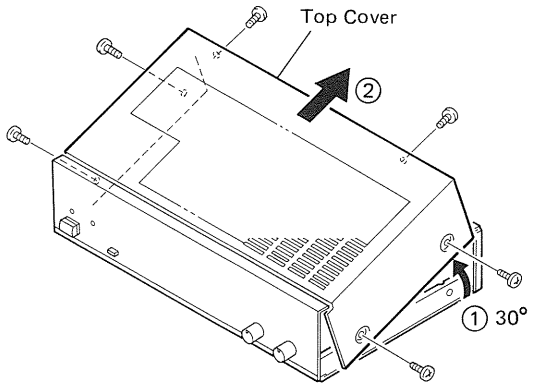
1. Peel off the sheathing from the end of the cord.
2. Twist the wire strands.
3. Loosen the speaker terminal, insert the wire lead portion of the code, and then tighten the terminal.



REMOVAL OF EACH SECTION

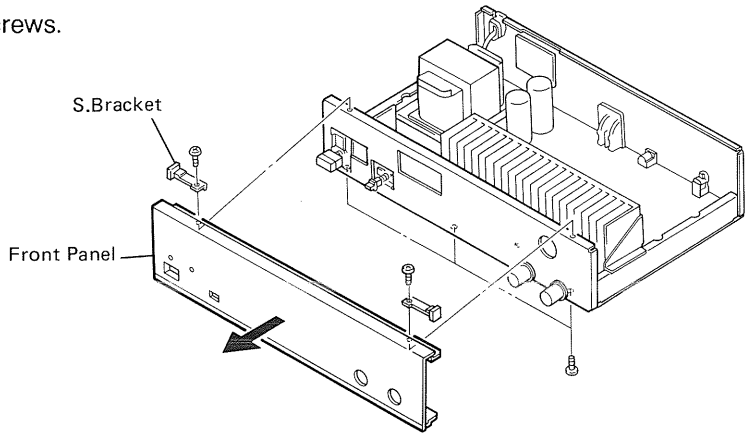
1. TOP COVER

(1) Remove 6 screws.
(2) Lift up the rear part of Top Cover by approximately 30° as shown with mark ①, and remove Top Cover in the arrow direction ②.



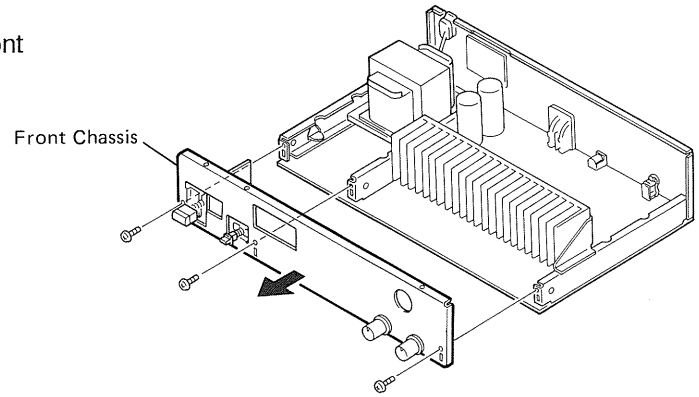
2. FRONT PANEL

Remove 2 upper screws and 3 lower screws. Then pull the panel to arrow direction.



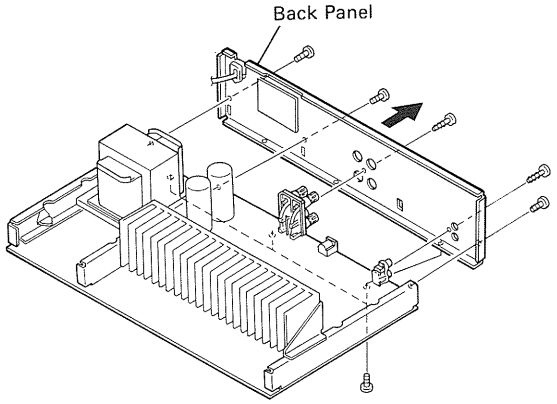
3. FRONT CHASSIS

Remove 3 screws and detach the Front Chassis.



4. BACK PANEL

Remove 5 rear screws and 3 lower screws. Then pull the Back Panel to arrow direction.



METHOD OF ADJUSTMENT

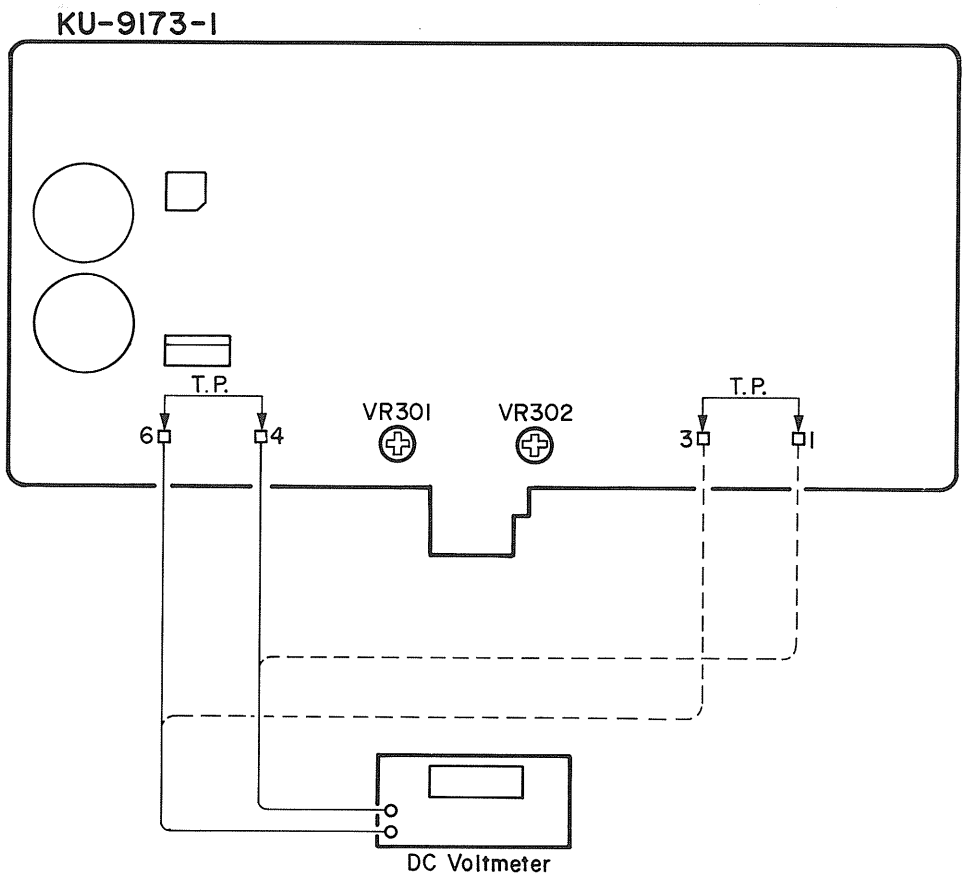
IDLE CURRENT ADJUSTMENT

● **SETUP**

1. Keep the unit away from direct wind blown by an air-conditioner and an electric fan, and keep the unit under normal conditions. adjust the range of ambient temperature to 15–30°C. (59–86°F)
2. Set the following switches as follows:
   - ●POWER (Power switch) to OFF
   - ●INPUT LEVEL (Level control) to 10 (↶)
   - ●SPEAKERS (Speaker terminal) to no load (Speakers disconnected)
   - ●MODE SELECTOR to STEREO

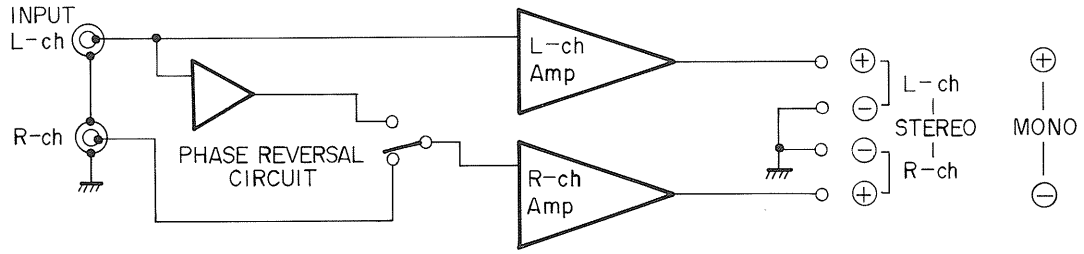
● **ADJUSTMENT**

1. Connect DC Voltmeter to Test Points (T.P.) of KU-9173-1.
2. Turn Power Switch "ON".
3. Adjust VR301 (L ch) and VR302 (R ch) so that the DC Voltmeter reads 1 ± 0.5mV.
4. Then after 3 minutes warmup, readjust the VR301 and VR302 so that the DC Voltmeter reads 10 ±1mV.
5. After 20 minutes, readjust the VR301 and VR302 for 10 ± 2 mV.



CAUTIONS ON CONNECTING OF SPEAKER AT THE TIME OF MONO MODE OPERATION

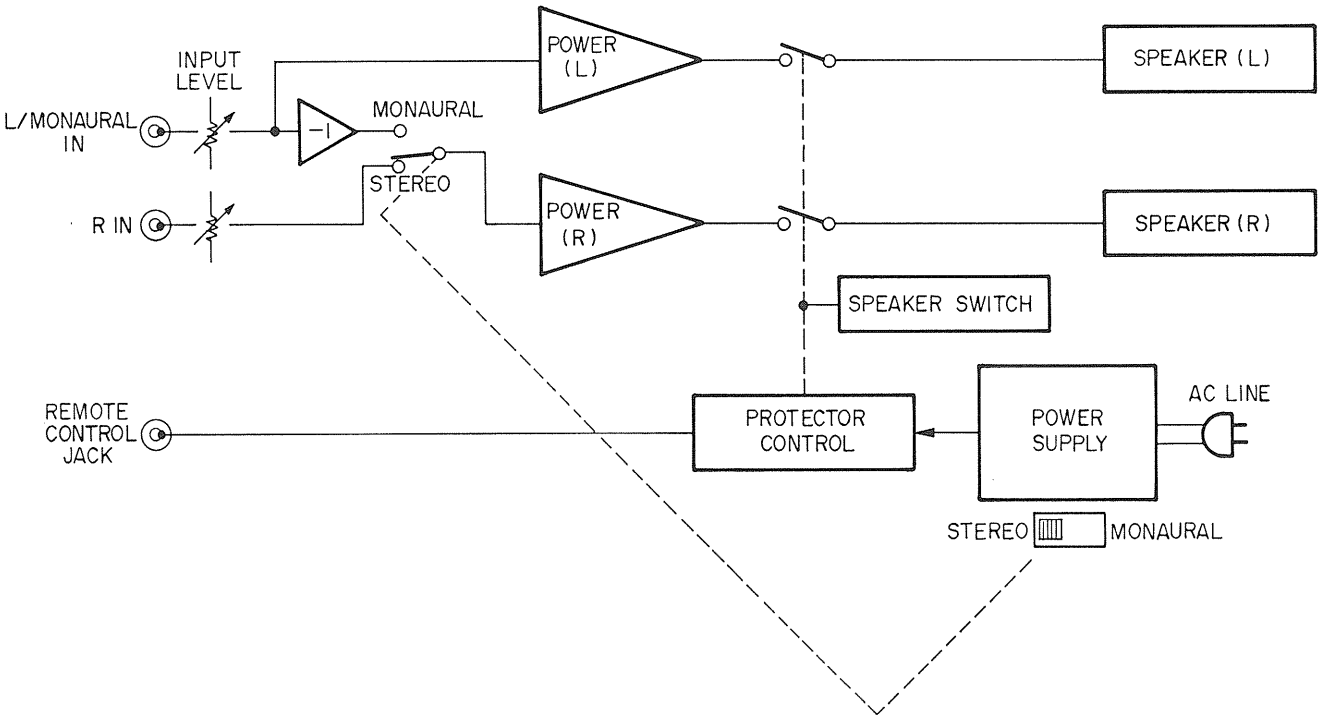
This unit is so designed not only to function as a ordinary stereo amplifier but also can be used as a monaural amplifier by BTL connection.
In case of using this unit as a monaural amplifier, the following cautions are essential, otherwise, malfunction may sometimes occur in the unit.



(CAUTIONS)

1) Connect the ⊕ terminal of speaker to the L-ch ⊕ (red) terminal of the unit.
   Connect the ⊖ terminal of speaker to the R-ch ⊕ (red) terminal of the unit.
2) Do not connect anything to ⊖ (black) terminal of speaker.
3) In case of connecting an equipment other than speaker (For example, audio measuring instrument, etc.), please float the ground potential of the equipment to be connected with this unit and also NOT connect the ground commonly. (As this will result in terminating the ⊕ terminal of speaker to the ground potential.)

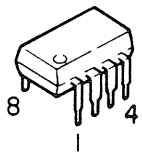
BLOCK DIAGRAM



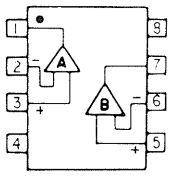
SEMICONDUCTORS

• IC

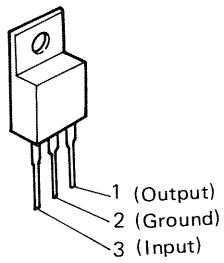
LA6458DF(Sanyo)



(Top View)

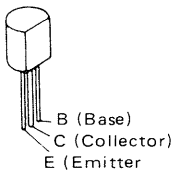


MC7815

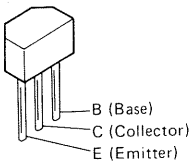


• Transistor

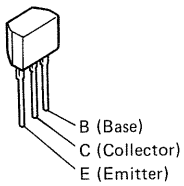
2SC2878(A/B)
2SC1815(Y)
2SA988(E/F)
2SC1841(E/F)



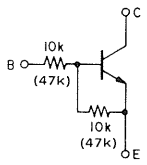
2SC2458(BL)
2SA1048(GR)



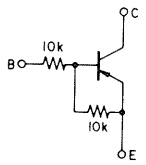
RN1202(10k-10k) NPN
RN1204(47k-47k) NPN
RN2202(10k-10k) PNP



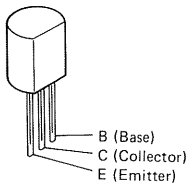
RN1202(10k-10k)
RN1204(47k-47k)



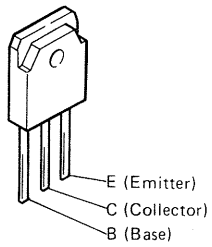
RN2202(10k-10k)



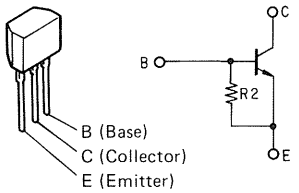
2SA1437-AA



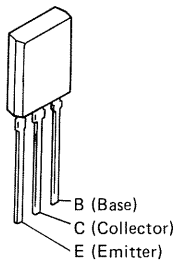
2SA1491(O/P/Y)(Z)
2SC3855(O/P/Y)(Z)
• Or Equivalent.



2SC4067

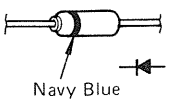


2SD2004(P)
2SB1328(P)

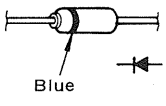


• Diode

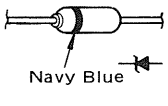
1S2076A



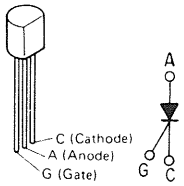
1SR139-200T-32



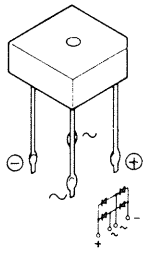
HZ5C-1
HZ15-1
HZ18-2
HZ24-2



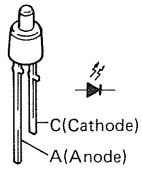
SFOR1A42
Thyristor



4D4B42(LC1)



TLR-206



NOTE FOR PARTS LIST

- Part indicated with the mark " ⊙ " are not always in stock and possibly to take a long period of time for supplying, or in some case supplying of part may be refused.
- When ordering of part, clearly indicate "1" and "l" (i) to avoid mis-supplying.
- Ordering part without stating its part number can not be supplied.
- Part indicated with the mark "★" is not illustrated in the exploded view.

WARNING:
Parts marked with this symbol ⚠ ▨ have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.

• Resistors

Ex.: RN 14K 2E 182 G FR
(Type / Shape and performance / Power / Resistance ★ / Allowable error / Others)

RD : Carbon RC : Fixed RS : Metallic film RW : Winding RN : Metal film RK : Metal mixture	2B : 1/8W 2E : 1/4W 2H : 1/2W 3A : 1W 3D : 2W 3F : 3W 3H : 5W	F : ±1% G : ±2% J : ±5% K : ±10% M : ±20%	P : Pulse-resistant type NL : Low noise type NB : Non-burning type FR : Fuse resistor F : Lead wire forming

★ Resistance
1 8 2 ⇨ 1800Ω = 1.8kΩ
- 2 — Indicates number of zeros after effective number
- 1 8 — 2-digit effective number, decimal point indicated by R.
- Units: Ω

• Capacitors

Ex.: CE 04W 1H 2R2 M BP
(Type / Shape and performance / Dielectric strength / Capacity ★ / Allowable error / Others)

CE : Aluminum foil electrolyte CA : Aluminum solid electrolyte CS : Tantalum electrolyte CQ : Film CK : Ceramic CC : Ceramic CP : Oil CM : Mica CF : Metallized CH : Metallized	0J : 6.3V 1A : 10V 1C : 16V 1E : 25V 1V : 35V 1H : 50V 2A : 100V 2B : 125V 2C : 160V 2D : 200V 2E : 250V 2H : 500V 2J : 630V	F : ±1% G : ±2% J : ±5% K : ±10% M : ±20% Z : +80% −20% P : +100% −0% C : ±0.25pF D : ±0.5pF = : Others	HS : High stability type BP : Non-polar type HR : Ripple-resistant type DL : For charge and discharge HF : For assuring high frequency U : UL part C : CSA part W : UL-CSA type F : Lead wire forming

★ Capacity
2 R 2 ⇨ 2.2μF
- 2 — 1-digit effective number, decimal point indicated by R.
- 2R — 2-digit effective number, decimal point indicated by R.

- Units: μF, (for P, pF (μμF)
- When the dielectric strength is indicated in AC, "AC" is included after the dielectric strength value.

PRINTED WIRING BOARD PARTS LIST
KU-9173E AMP UNIT PARTS LIST (for U.S.A.)

Ref. No.	Part No.	Part Name	Remarks
SEMICONDUCTORS GROUP			
IC101	263 0658 008	MC7815	
IC201	263 0229 013	LA-6458DF	
TR101	273 0253 918	2SC2878 (A/B)	
TR102	269 0026 900	RN2202 (10K-10K)	
TR103	269 0025 901	RN1202 (10K-10K)	
TR104	269 0029 907	RN1204 (47K-47K)	
TR105	269 0076 905	2SC4067	
TR106	273 0317 906	2SC2458 (BL)	
TR107	271 0191 906	2SA1048 (GR)	
TR108	273 0317 906	2SC2458 (BL)	
TR109	269 0025 901	RN1202 (10K-10K)	
TR110	273 0360 908	2SC2458 (Y)	
TR112~114	273 0317 906	2SC2458 (BL)	
TR115	271 0191 906	2SA1048 (GR)	
TR301~304	271 0242 907	2SA1437-AA	
TR305,306	271 0131 924	2SA988 (E/F)	
TR307~312	273 0235 923	2SC1841 (E/F)	
TR313,314	273 0198 905	2SC1815 (Y)	
TR315,316	274 0151 903	2SD2004 (P)	
TR317,318	272 0107 003	2SB1328 (P)	
TR323,324	273 0235 923	2SC1841 (E/F)	
D101,102	276 0552 906	1SR139-200T-32	
D103	276 0424 005	4D4B42 (LC1)	
D104~107	276 0552 906	1SR139-200T-32	
D108,109	276 0236 934	HZ5C-1	
D110~115	276 0049 914	1S2076A	
D151	279 0016 904	SF0R1A42	
D301~308	276 0049 914	1S2076A	
LE101,102	393 9433 907	TLR-206	
RESISTORS (not included Carbon Film ±5%, 1/4W type)			
⚠ R103,104	241 2387 908	RD14B2E010JNB	1ohm/14W
⚠ R107	241 2378 920	RD14B2E221JNB	220ohm/1/4W
R108	241 2231 902	RD14B2E152J	1.5kohm/1/4W
R109	244 2043 953	RS14B3A471JST (S)	470ohm/1W
R110	244 2051 974	RS14B3A102JST (S)	1kohm/1W
⚠ R122,123	241 2387 908	RD14B2E010JNB	1ohm/1/4W

WARNING:
Parts marked with this symbol ⚠ ▨ have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.

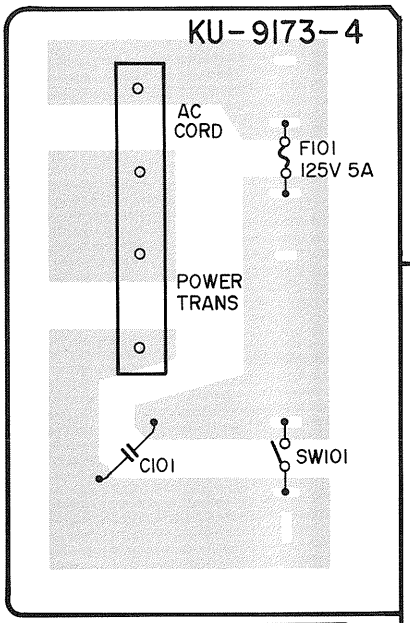
Ref. No.	Part No.	Part Name	Remarks
⚠ R307~310	241 2380 921	RD14B2E152JNB	1.5kohm/1/4W
⚠ R317~320	241 2377 905	RD14B2E680JNB	68ohm/1/4W
⚠ R325,326	241 2376 948	RD14B2E390JNB	39ohm/1/4W
⚠ R327~330	241 2379 987	RD14B2E102JNB	1kohm/1/4W
⚠ R331,332	241 2379 903	RD14B2E471JNB	470ohm/1/4W
R333~340	244 2043 982	RS14B3AR22JST (S)	0.22ohm/1W
⚠ R345	241 2380 963	RD14B2E222JNB	2.2kohm/1/4W
⚠ R346	241 2369 052	RD14B2E222JNBF	2.2kohm/1/4W
⚠ R349,350	241 2382 961	RD14B2E153JNB	15kohm/1/4W
⚠ R353,354	241 2375 981	RD14B2E220JNB	22ohm/1/4W
⚠ R355,356	241 2387 940	RD14B2E4R7JNB	4.7ohm/1/4W
VR201,202	211 9086 007	V16V25FB503	50kohm INPUT LEVEL
VR301,302	211 6064 006	V06PB103	10kohm semi-fixed resistor
CAPACITORS GROUP			
C101	253 8014 702	CK45F2GAC103MC	0.01μF/400VAC
C102~105	253 1181 904	CK45F1H103Z (DD-3)	0.01μF/50V +80,–20%
C115	253 1181 904	CK45F1H103Z (DD-3)	0.01μF/50V +80,–20%
C118~120	253 1181 904	CK45F1H103Z (DD-3)	0.01μF/50V +80,–20%
C206	253 4538 949	CC45SL1H101J (DD-3)	100pF/50V
C209	253 1181 904	CK45F1H103Z (DD-3)	0.01μF/50V
C303,304	253 1179 945	CK45B1H221K (DD-3)	220pF/50V
C305,306	253 4538 949	CC45SL1H101J (DD-3)	100pF/50V
C307,308	253 4535 955	CC45SL1H050C (DD-3)	5pF/50V
C313,314	253 4538 949	CC45SL1H101J (DD-3)	100pF/50V
C315,316	253 1180 921	CK45B1H102K (DD-3)	1000pF/50V
C319,320	253 4470 900	CC45SL2H100D	10pF/500V
C321,322	253 1179 929	CK45B1H151K (DD-3)	150pF/50V
C327~330	253 1180 947	CK45B1H152K (DD-3)	1500pF/50V
C331,332	253 1181 904	CK45F1H103Z (DD-3)	0.01μF/50V
C993,994	253 1180 947	CK45B1H152K (DD-3)	1500pF/50V
C107	254 4260 935	CE04W1HR47M (SME)	0.47μF/50V
C108	254 4263 987	CE04W2A100M (SME)	10μF/100V
C109	254 4278 930	CE04W1H151M	150μF/50V
C110	254 4260 980	CE04W1H100M (SME)	10μF/50V
C111,112	254 6151 709	CE04W1H103M (DL) MC	0.01F/50V

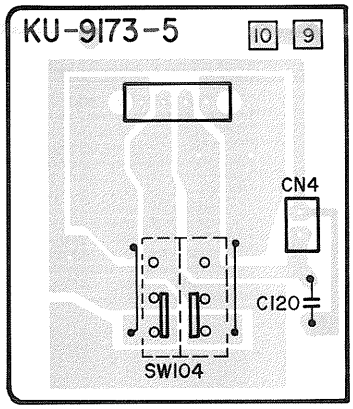
Ref. No.	Part No.	Part Name	Remarks
C113	254 4254 925	CE04W1C330M (SME)	33μF/16V
C114	254 4254 938	CE04W1C470M (SME)	47μF/16V
C116	254 4250 945	CE04W0J331M (SME)	330μF/6.3V
C117	254 4250 932	CE04W0J221M (SME)	220μF/6.3V
C121	254 4260 948	CE04W1H010M (SME)	1μF/50V
C122	254 4278 930	CE04W1H151M	150μF/50V
C123	254 4256 949	CE04W1E101M (SME)	100μF/25V
C124	254 4254 938	CE04W1C470M (SME)	47μF/16V
C125	254 4254 909	CE04W1C100M (SME)	10μF/16V
C203	254 4260 948	CE04W1H010M (SME)	1μF/50V
C205	254 4254 912	CE04W1C220M (SME)	22μF/16V
C207	254 4260 948	CE04W1H010M (SME)	1μF/50V
C208	254 1033 000	CS45E1V4R7M	4.7μF/35V
C301,302	254 4260 977	CE04W1H4R7M (SME)	4.7μF/50V
C309,310	254 4250 932	CE04W0J221M (SME)	220μF/6.3V
C323,324	254 4260 948	CE04W1H010M (SME)	1μF/50V
C325,326	254 4361 902	CE04W2A220M	22μF/100V
C337~340	254 4263 987	CE04W2A100M (SME)	10μF/100V
C311,312	255 4213 972	CQ93M1H103J (B)	0.01μF/50V
C333,334	255 4213 972	CQ93M1H103J (B)	0.01μF/50V
C335,336	256 1034 953	CF93A1H683J	0.068μF/50V
RELAYS, SWITCHES			
RL101	214 9003 005	RELAY	SPEAKER
RL201	214 0127 003	RELAY (RY-12W)	MODE
⚠ SW101	212 9525 008	POWER SW (TV-5)	
SW103	212 2605 006	SLIDE SWITCH	MODE
SW104	212 2608 003	1P PUSH SWITCH	SPEAKER SW (UL)

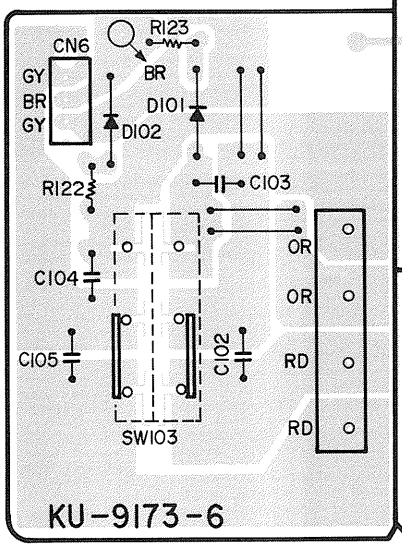
OTHER PARTS				Q'ty
	205 0315 002	2P CONNECTOR BASE		1
L301,302	235 0068 004	INDUCTOR		2
	204 8289 001	DC POWER JACK		1
	205 0452 017	STYRENE PIN		1
	205 0075 041	WRAP TERMINAL		1
	205 0149 029	4P WRAPPING TERMINAL		1
	205 0550 003	4P TERMINAL		1
F101	206 1046 027	FUSE 5A		1
	202 0022 008	FUSE HOLDER		2
	205 0185 038	3P WIRE HOLDER		10

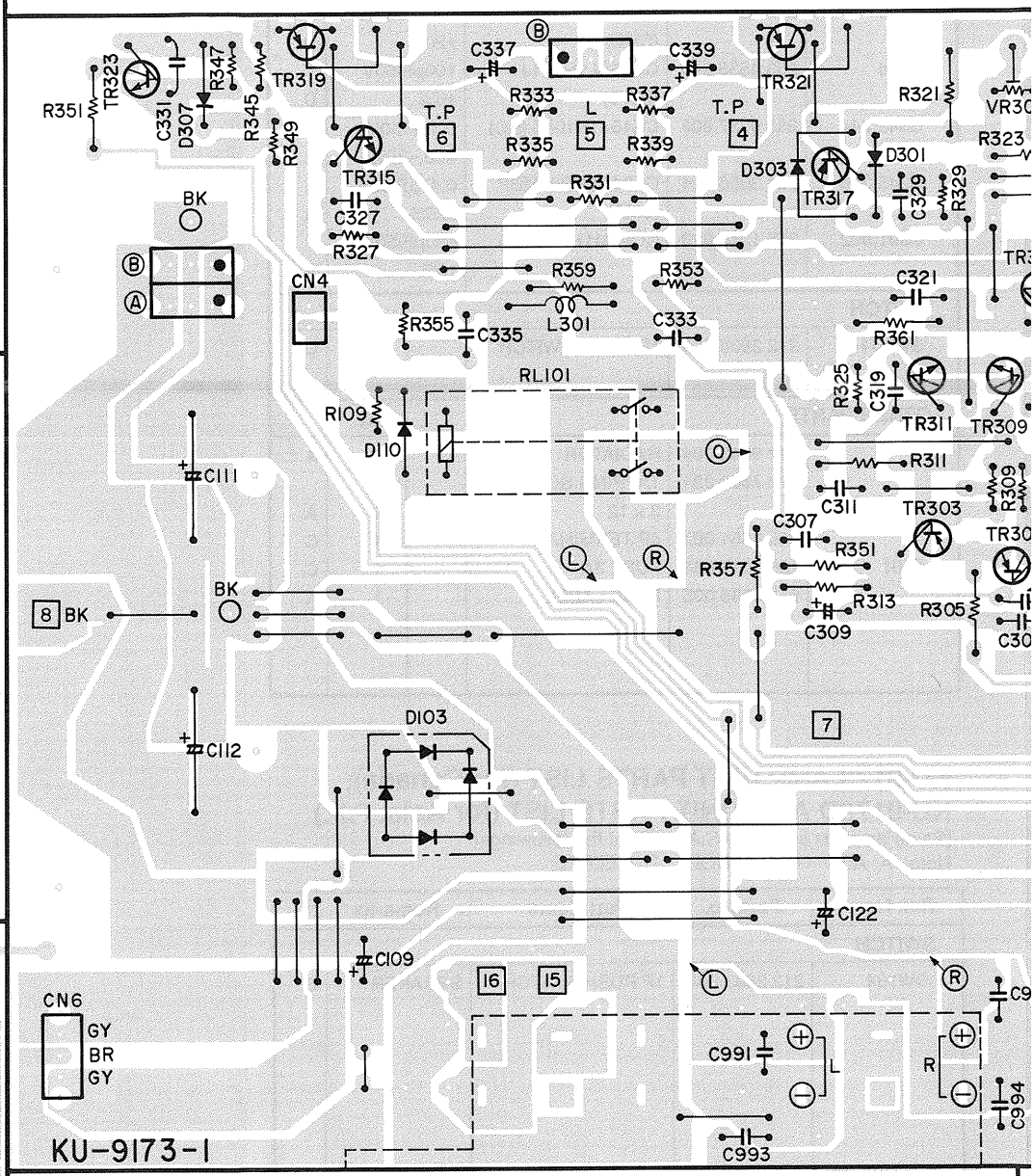
PRINTED WIRING BOARD PATTERNS

KU-9173 AMP UNIT (U.S.A., Canada, Asia, P.X.)





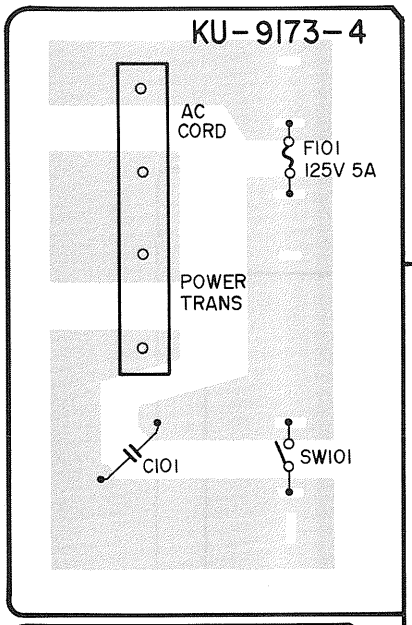


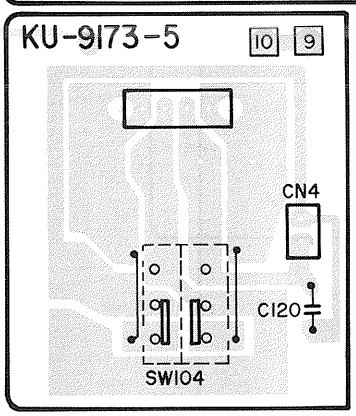


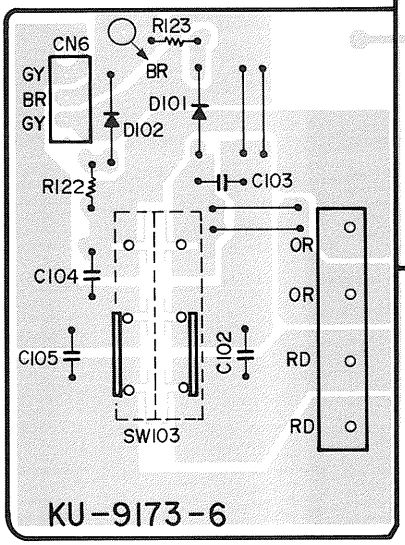
KU-9173-7

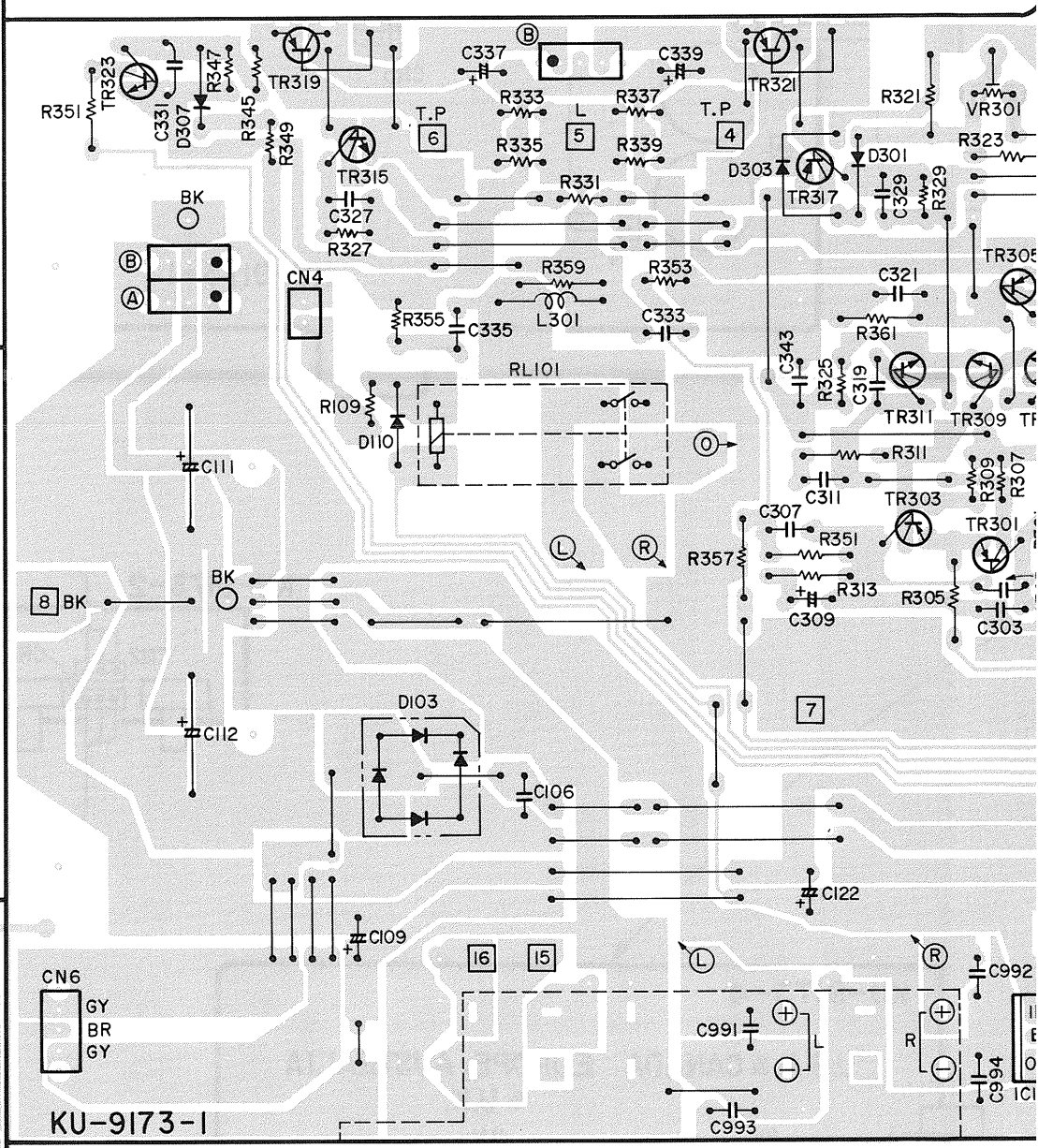
U.S.A. & Canada Model ONLY

KU-9173 AMP UNIT (Europe, U.K., Australia)

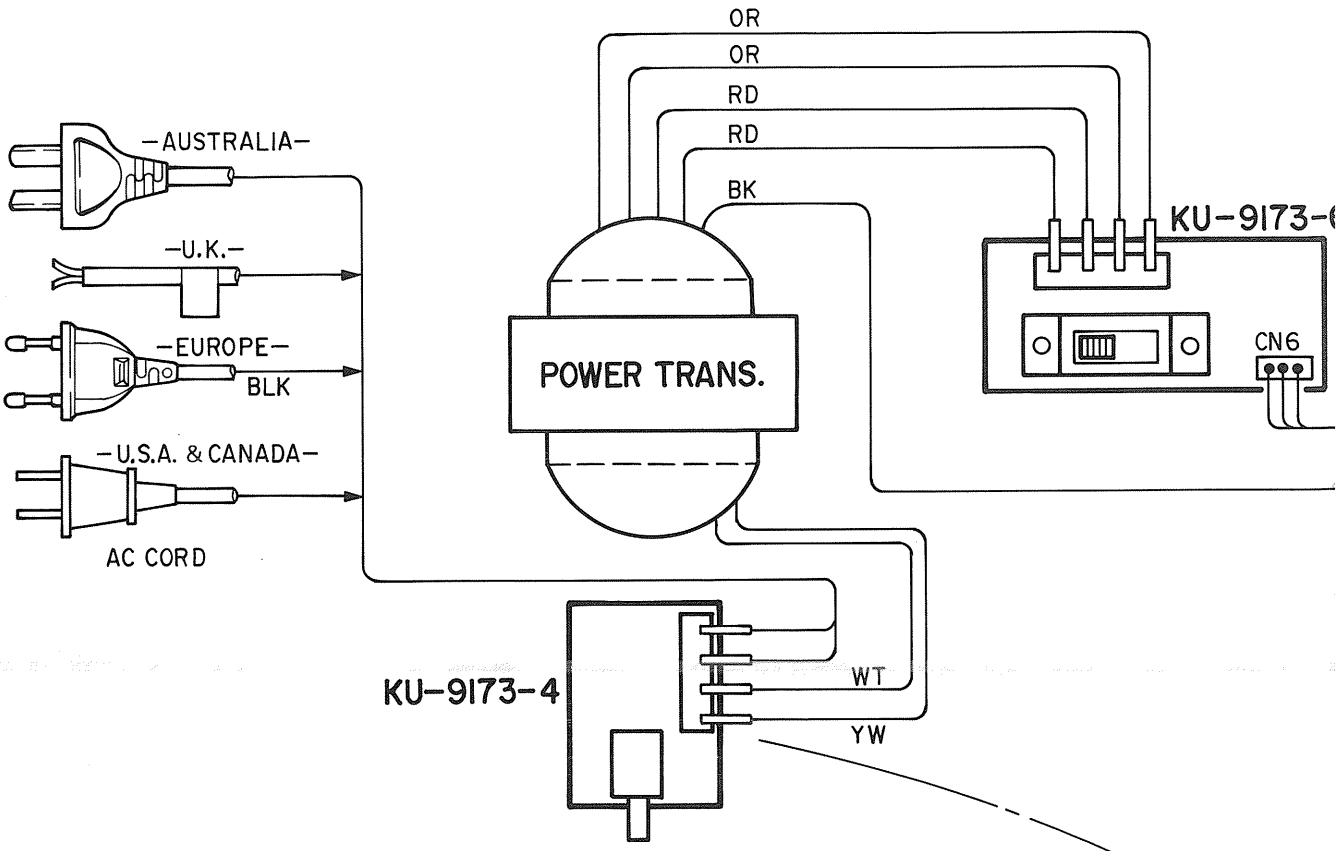


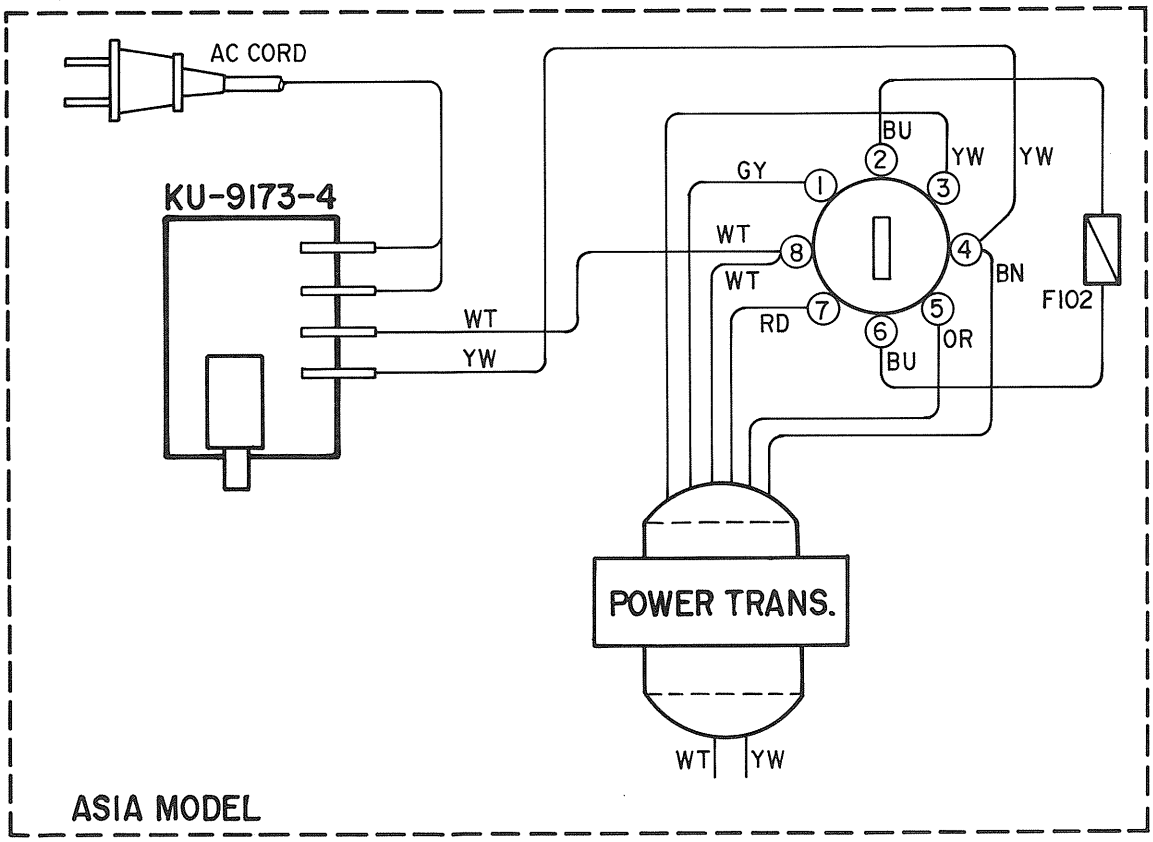




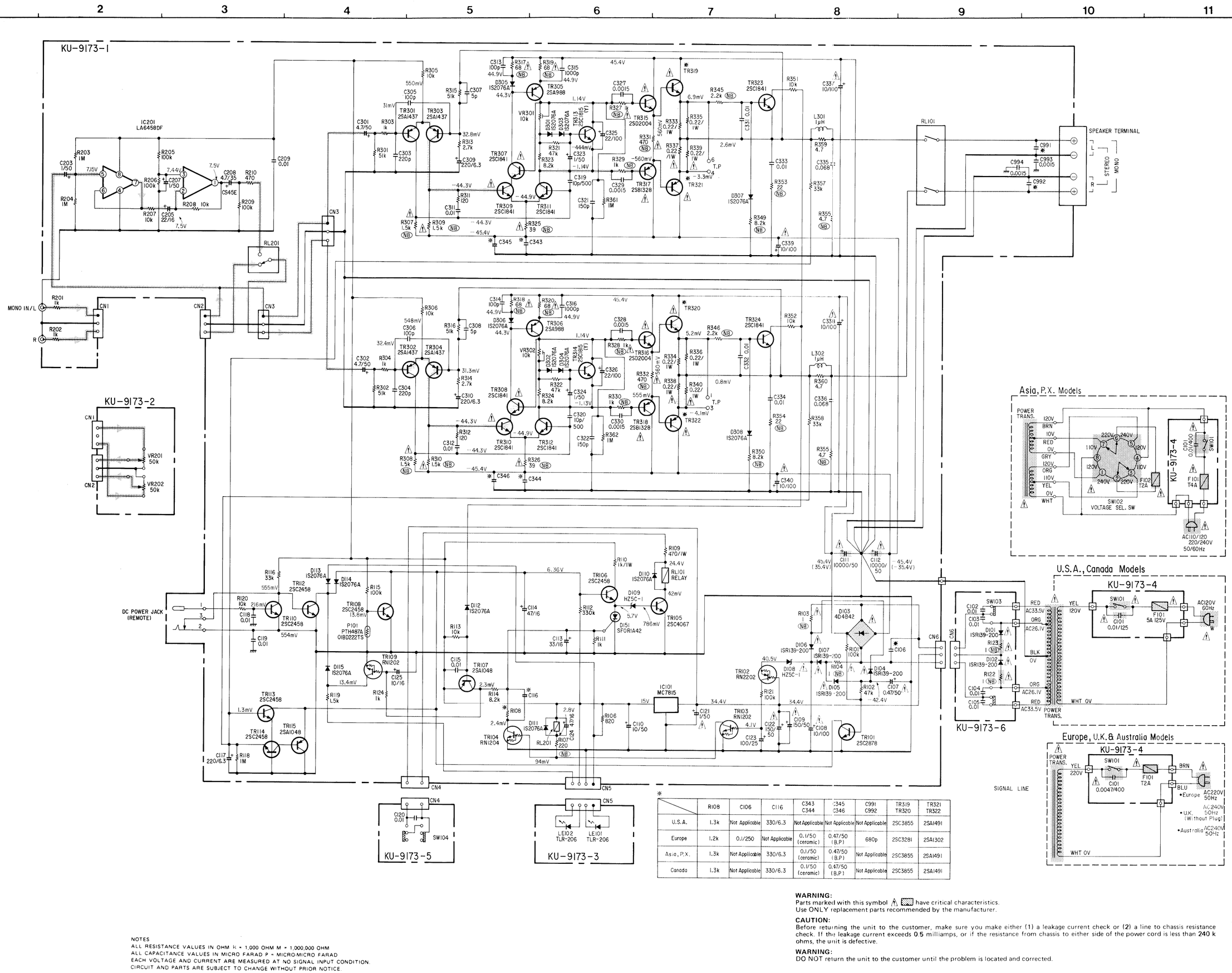


WIRING DIAGRAM





SCHEMATIC DIAGRAM



	R108	C106	C116	C343 C344	C345 C346	C991 C992	TR319 TR320	TR321 TR322
U.S.A.	1.3k	Not Applicable	330/6.3	Not Applicable	Not Applicable	Not Applicable	2SC3855	2SA1491
Europe	1.2k	0.1/250	Not Applicable	0.1/50 (ceramic)	0.47/50 (B.P)	680p	2SC3281	2SA1302
Asia, P.X.	1.3k	Not Applicable	330/6.3	0.1/50 (ceramic)	0.47/50 (B.P)	Not Applicable	2SC3855	2SA1491
Canada	1.3k	Not Applicable	330/6.3	0.1/50 (ceramic)	0.47/50 (B.P)	Not Applicable	2SC3855	2SA1491

WARNING:
Parts marked with this symbol ⚠ ▨ have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.

CAUTION:
Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamps, or if the resistance from chassis to either side of the power cord is less than 240 k ohms, the unit is defective.

WARNING:
DO NOT return the unit to the customer until the problem is located and corrected.

NOTES
ALL RESISTANCE VALUES IN OHM K = 1,000 OHM M = 1,000,000 OHM
ALL CAPACITANCE VALUES IN MICRO FARAD P = MICRO-MICRO FARAD
EACH VOLTAGE AND CURRENT ARE MEASURED AT NO SIGNAL INPUT CONDITION.
CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

EXPLODED VIEW OF CHASSIS AND CABINET & PARTS LIST

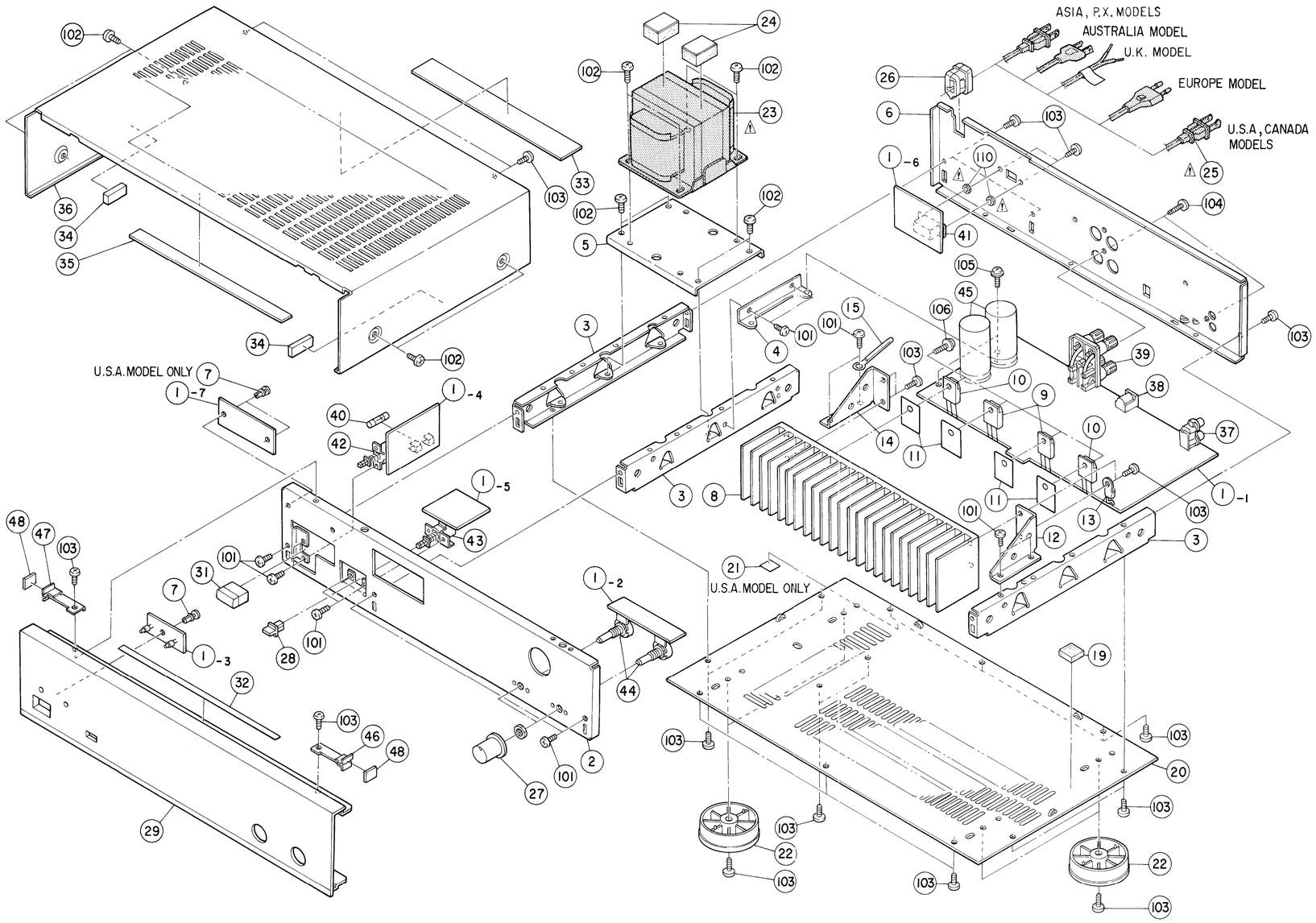
•PARTS LIST OF EXPLODED VIEW

NOTE: See addendum list (page 23) for the parts with asterisk (*) on the Ref. No.

Ref. No.	Part No.	Part Name & Description	Remarks	Q'ty
*◉ 1		AMP UNIT		1
◉ 2	411 9070 008	FRONT CHASSIS		1
◉ 3	411 9071 007	SIDE CHASSIS-R		3
◉ 4	412 9222 008	PWB BRACKET		1
◉ 5	412 9221 009	P.T BRACKET		1
*◉ 6		BACK PANEL		1
* 7		PUSH RIVET		3
*◉ 8		POWER RADIATOR		1
* 9		2SA1491 (O/P/Y) (Z)	TR321,322	2
* 10		2SC3855 (O/P/Y) (Z)	TR319,320	2
* 11		INSULATING SHEET		4
◉12	412 9223 007	RADI BRACKET (R)		1
13	276 0289 004	PTH487A01BD222TS		1
◉14	412 9224 006	RADI BRACKET (L)		1
15	445 0048 016	CORD HOLDER (L50)		1
*★18		WIRE CLAMP BAND		4
19	461 9001 014	RUBBER SHEET		1
◉20	105 9147 007	BOTTOM COVER		1
*◉21		DANGEROUS MARK	U.S.A. MODEL ONLY	1
22	104 0194 001	FOOT Ass'y		4
*⚠23		POWER TRANS.		1
◉ 24	461 9013 044	CUSHION		2
*⚠25		AC CORD (POLARIZED)		1
26	445 0056 008	CORD BUSH		1
27	112 9069 002	KNOB Ass'y		2
28	113 9071 006	PUSH KNOB (T)		1
29	144 9107 000	F. PANEL Ass'y		1
31	113 9213 000	P. KNOB (P) Ass'y		1
32	122 9006 017	SPACER		1
◉33	461 9009 016	DAMP SHEET (C)		1
◉34	461 0501 050	RUBBER SHEET		2
◉35	461 9009 045	DAMP SHEET (C)		1
◉36	102 9033 112	TOP COVER		1
37	205 0315 002	2P CONNECTOR BASE		1
38	204 8289 001	DC POWER JACK		1
39	205 0550 003	4P TERMINAL		1
40	206 1046 027	FUSE 5A		1
41	212 2605 006	SLIDE SWITCH	MODE (SW103)	1
42	212 9525 008	POWER SW TV-5	SW101	1
43	212 2608 003	1P PUSH SWITCH (UL)	SPEAKER SW (UL)	1
44	211 9086 007	V16V25FB503	VR201, 202	2
45	254 6151 709	CE04W1H103M (DL) MC	C111, 112	2
◉ 46	412 9232 001	S. BRACKET-R Ass'y		1
◉ 47	412 9233 000	S. BRACKET-L Ass'y		1
◉ 48	461 9023 005	RUBBER SHEET		2
SCREWS & NUTS				
* 101		TAPPING SCREW(S) 3 × 6	BLACK	13
102	473 7007 000	TAPPING SCREW(S) 4 × 8	BLACK	12
* 103		TAPPING SCREW(S) 3 × 8	BLACK	29
104	477 0064 107	FIXING SCREW	BLACK	2
105	473 8007 025	CUP SCREW 3 × 8		2
106	473 8007 038	CUP SCREW 3 × 14		4
PACKING & ACCESSORIES (not included EXPLODED VIEW)				
* 201		BLIND SHEET		1
202	504 0079 012	STYRENE PAPER		1
203	505 0075 006	CABINET COVER		1
204	503 9195 101	CUSHION Ass'y		1
205	505 8006 019	ENVELOPE		1
* 206		INST MANUAL		1
207	203 2247 004	REMOTE PLUG CORD		1
208	501 9117 015	CARTON CASE		1
209	503 9199 000	CUSHION (T)		1

• EXPLODED VIEW OF CHASSIS AND CABINET

WARNING:
Parts marked with this symbol ⚠ ▨ have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.



- NOTE FOR PARTS LIST
- Part indicated with the mark "◉" are not always in stock and possibly to take a long period of time for supplying, or in some case supplying of part may be refused.
- When ordering of part, clearly indicate "1" and " I" (i) to avoid mis-supplying.
- Ordering part without stating its part number can not be supplied.
- Part indicated with the mark "★" is not illustrated in the exploded view.
- Not including Carbon Film ±5%, 1/4W Type in the P.W. Board parts list (Refer to Schematic Diagram for those parts.)

ADDENDUM LIST

WARNING:
Parts marked with this symbol ⚠ ▒▒ have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.

Ref. No.	Part Name & Descriptions	Part No.				
		U.S.A.	Canada	Asia, P.X.	Europe	U.K.
◎ 1	AMP UNIT	KU-9173E	KU-9173	KU-9173D	KU-9173B	KU-9173B
◎ 6	BACK PANEL	105 9150 010	105 9150 010	105 9150 023	105 9150 007	105 9150 036
7	PUSH RIVET	477 0096 007 (2)	477 0096 007 (2)	—	—	—
◎ 8	POWER RADIATOR	417 9048 009	417 9048 009	417 9048 009	417 9048 012	417 9048 012
9	TR321, 322	271 0240 006	271 0240 006	271 0240 006	271 0245 001	271 0245 001
10	TR319, 320	273 0389 002	273 0389 002	273 0389 002	273 0391 003	273 0391 003
11	INSULATING SHEET	415 0234 007 (4)	415 0234 007 (4)	415 0234 007 (4)	—	—
18	WIRE CLAMP BAND	445 0033 005 (5)	445 0033 005 (5)	445 0033 005 (7)	445 0033 005 (5)	445 0033 005 (4)
◎ 21	DANGEROUS MARK	513 8266 009	—	—	—	—
⚠ 23	POWER TRANS.	233 9607 004	233 9607 004	233 9608 003	233 9606 005	233 9611 003
25	AC CORD (POLARIZED)	206 2060 002	206 2060 002	—	—	—
	AC CORD WITH PLUG	—	—	—	206 2063 009	—
	AC CORD WITH LABEL	—	—	—	—	206 2024 006
	AC CORD	—	—	200 6031 026	—	—
49	VOLTAGE SEL. SWITCH	—	—	212 9555 007	—	—
50	BLIND SHEET	—	—	—	513 9172 008	—
51	FUSE HOLDER	—	—	202 0013 101	—	—
52	FUSE BRACKET	—	—	412 9230 003	—	—
53	FUSE 2.0A (T)	—	—	206 1035 041	—	—
54	FUSE LABEL	—	—	513 0886 005	—	—
101	TAPPING SCREW (S) 3×6 BLACK	473 7002 034 (17)	473 7002 034 (17)	473 7002 034 (19)	473 7002 034 (17)	473 7002 034 (17)
103	TAPPING SCREW (S) 3×8 BLACK	473 7002 021 (29)	473 7002 021 (29)	473 7002 021 (31)	473 7002 021 (29)	473 7002 021 (29)
⚠ 110	4mm Nut	475 6008 006 (2)	—	—	—	—
★ 201	BLIND SHEET	513 9224 008	513 9224 008	—	—	—
★ 206	INST. MANUAL	511 9275 006	511 9275 006	511 9275 006	511 9276 005	511 9276 005
★ 210	PRESET LABEL	—	—	515 0290 008	—	—
★ 211	LA APPROVAL MARK	513 8300 004	—	—	—	—
★ 212	DAI WARRANTY HOME	515 0418 301	—	—	—	—
★ 213	DCI WARRANTY	—	515 0388 004	—	—	—
★ 214	WARRANTY IN ENVELOPE	—	—	515 8052 303	—	—

Note 1. See addendum list above for the parts with asterisk(*) on the Ref. No. and the other parts not included in the list.
2. ★ marked not included EXPLODED VIEW OF CHASSIS AND CABINET.
3. Part indicated with the mark "◎" are not always in stock and possibly to take a long period of time for supplying, or in some case supplying of part may be refused.
4. This list is prepared based on U.S.A. BLACK VERSION.

DENON

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